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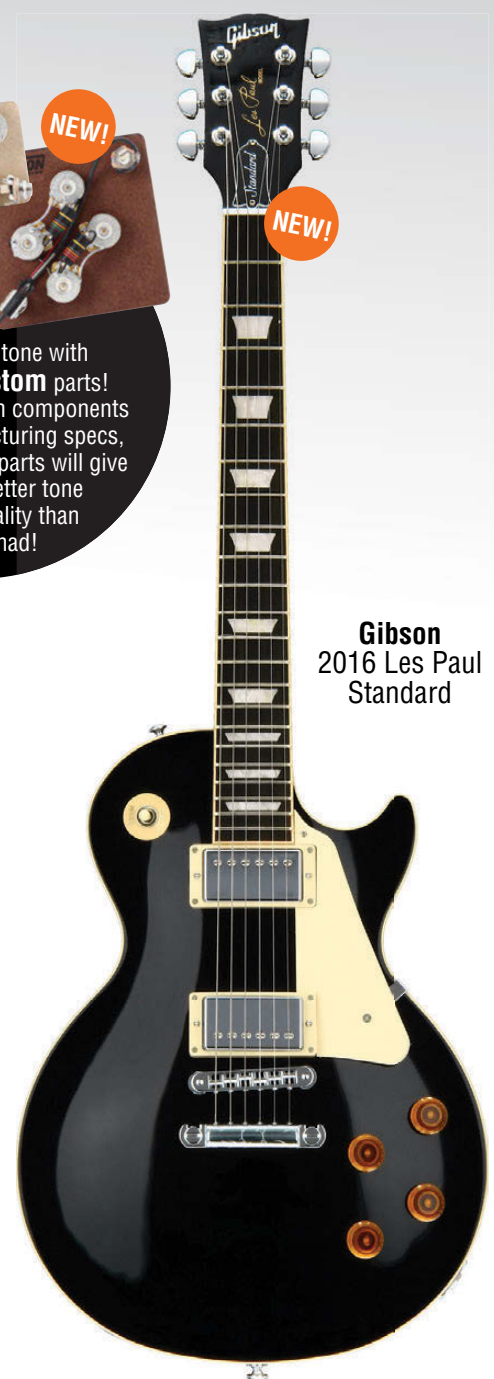
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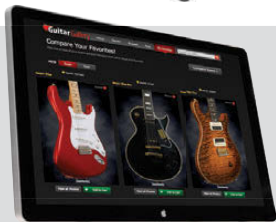
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# A Call to Literate Guitar Dweebs

BY SHAWN HAMMOND

🐦 @PG\_shawnh



For the last few years *PG* has been fortunate to have some of the best, most knowledgeable guitar-playing writers and editors on the planet. If you've been a fan of quality guitar journalism for the last two or three decades, you know it's a big deal to have names like Andy Ellis and Joe Gore (both *PG* Senior Editors) grace our pages and pixels. These guys—as well as the rest of our editorial staff, and regular contributors like Ted Drozdowski, Tzvi Gluckin, Emile Menasché, and Joe Bosso—eat, drink, and breathe music.

This month we bid a bittersweet farewell (of sorts) to our pal Joe Gore. He'll still be enlightening us with *Recording Guitarist* and gear-review insights, but he's embarking on more playing and recording adventures and won't have time to continue in the same capacity. We wish him the best and look forward to more quirky observations, provocative shoves, and twisted riffs here in *PG*.

One of the most bitter parts of this farewell is being reminded (again) of guitar journalism's perplexing reality. There's no shortage of 6-string freaks who eat, drink, and breathe guitar nerdery. You're everywhere—and smarter and more diverse than ever. But there's something confounding going on. How can there be so many die-hard guitar junkies, yet so few who consider plotting a path to a career of talking, reading, and writing about it?

Ambitious guitarists and bassists aren't in short supply, but the ones seeking a related career that doesn't fall under the "Rock Star 2015–present" heading on a resume seem strangely fixated on a path that's just as unrealistic and precarious. Like becoming a YouTube or social-media sensation.

Don't get me wrong—YouTube, Twitter, etc., are fantastic tools that *PG* and other businesses would be fools to ignore. But any degree of fame a guitarist might achieve there is both incredibly fleeting and virtually devoid of a predictable revenue stream. If you're doing that stuff for fun, that's cool. More power to you. But if you think it's a solid career path, you might as well switch goals to something more realistic, like lining your 37-room mansion's den walls with platinum records.

Again, not ragging on this stuff. For some, maybe it'll bring in enough money to supplement other endeavors and help you get by. But otherwise, aiming to achieve fame as a video and social-media guitar guy is setting your sights low. In my opinion, it's also a bit shallow, shortsighted, and—in the grand scheme of things—deceptively easy. You can trail off mid-sentence, have horrible grammar, and use not-so-sound metaphors and logic, but as long as you've got decent recording fidelity, impressive dexterity and genre command, and a casual vibe, people will watch. Same basic idea goes for social-media parameters. But A) who's going to pay you a living wage for that? And B) what are you gonna do when notoriously fickle crowds find a new fetish?

Why not put as much discipline into a guitar-dweeb career path as you already put into your woodshedding, songwriting, and recording? Why not opt for something with potential for more stability? Why not get *serious* and get the know-how it takes to be a real-deal guitar-media guru? Video and social savvy are important, but if you want to be in this for the long haul you need more serious chops.

Read. Read some more. Read *voraciously*. Learn to love words—learn to see the written word as music. Study rules of grammar, syntax, punctuation. They're the scales and chords of this "music." Practice your word tunes religiously. Become deft at editing them, just as with your guitar-based ones.

I won't sugarcoat it: This isn't a get-rich field. And like any job (including bona fide rock star) it has its pains in the ass and occasional drudgery. But hell, what's not to dig about getting to meet and interview great musicians, writing about gear you dig (or don't), and being inundated with new music that enriches your life in ways unquantifiable to a true music addict?

I mean, unless you have your masochistic heart set on eventually surrendering to an exciting career on the barista circuit or with a huge, soulless corporation.... 🍷

A handwritten signature in black ink, appearing to read 'Shawn Hammond'.

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# Ed Sheeran



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# FEEDBACK LOOP



## A Lesson in the Key of Kora

It's funny that you would have the article and demos about the Kora now ["World Gone Shred: Kora Power!," August 2015]. I heard acoustic performer Walter Strauss mention it a couple of years ago with Alex de Grassi at a house concert in Ukiah. I figured out that it must be what I hear on the Paul Simon albums *Graceland* and *The Rhythm of the Saints* (plus guitar and thumb piano). Then, I heard the Fathers and Sons band (a spinoff of Dark Star Orchestra) at Terrapin Crossroads do Paul Simon's "The Boy in the Bubble" on July 18, after blues-ing it up just a little so they could play it as a 5-piece. I was first in, front row, dead center, watching. And that inspired me to try playing it two weekends ago at a Farmer's

Market gig where I filled in for a cancellation. I turned the echo + reverb setting way up, and copped one of the licks as an intro from something like track 4, "Proof," on *Rhythm of the Saints*.

And I did cross-picking and holding the notes of the chord down while changing on just one string at a time. And yeah, it sounded a lot like your video lessons. Then I just went into hip-swaying jungle strum for the rest of the song. I was still getting compliments from that entire gig when I went there last week, and I'm playing again this Sunday.

Thanks for putting that information out there—that is a fantastic sound that really grabs peoples' attention, and it isn't that hard to do, once you "get" it. Cool!

—Joel Baechle, Jackson, California

## We are You

I hadn't heard of these guys before this article ["METZ: Alex Edkins' Relentless Aggression, September 2015"]. Thanks for making the introduction. They remind me a little of Drive Like Jehu—which I almost *never* find myself saying. This is pretty exciting, if you're me.

—Nik Farr, via [premierguitar.com](#)

## Morse Code

I just wanted to leave a quick note. I watched the Rig Rundown that Tessa Jeffers did with Steve Morse on YouTube, and I was extremely impressed with her level of knowledge of not just guitars and setups but also how they interact with the rest of the band and venues. Quite a few times I noticed, she finished Steve's sentences and helped him along and she was always right on. Steve's a talented

artist, they're not always eloquent speakers! Tessa asked all the pertinent questions I wanted to know and kept the interview on track. Huge kudos to her!

Thanks for the time and effort you guys go through to bring us these interviews, it really helps!

—Dennis Cooper, via [premierguitar.com](#)

## Nili Brosh Modes

I had to read this lesson three times before I understood it ["Future Rock: Speeding Down the Modal Interchange Highway," September 2015]. That makes it my favorite lesson so far this year. You explained a lot of what I wasn't getting about Scott Joplin's rags. A real plateau-buster.


—TRVolk, via [premierguitar.com](#)

## Some Advice

Who the hell does Al Di Meola think he is—who died and made him king ["Al Di Meola: The Mixer," October 2015]? For making an absurd comment about Jeff Beck ... he probably sticks his nose up in the air at Zappa, too. Well Al, give a listen to "Don't Eat the Yellow Snow."

—Jim Porter, via [premierguitar.com](#)

## Correction

Our October 2015 Slayer feature included some mistaken gear information. Gary Holt has been an exclusive ESP endorser since late 2014. We apologize for any confusion. 

## Keep those comments coming!

Please send your suggestions, gripes, comments, and good words directly to [info@premierguitar.com](mailto:info@premierguitar.com).

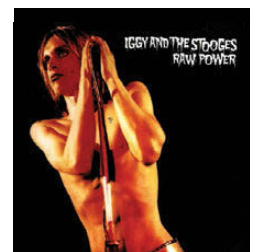


## Socialize with Us!



↙ @JohnBohlinger  
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I still have my first everything guitar related. Boss OD I got used in 1983 #stillontheboard  
—@Frisco\_Butch

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An EHX treble booster was my first pedal, but I wish I'd bought a MXR Distortion+ when it came out the next year!  
—@Red\_Shoemaker



How to get the Raw Power sound: 1) Turn the gain up to 10. 2) Record it with the preamp volume on 10. 3) Turn the mixer volume up to 10. 4) Turn everything up a bit. 5) Turn everything up a bit more. 5) Keep going. 6) Done.  
—Charly Rabbitt



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# CONTENTS *November 2015*

## ARTISTS

48

### Gary Clark Jr.

The innovative bluesman says he wasn't made for these times.

65

### Iron Maiden

Adrian Smith, Dave Murray, and Janick Gers find magic in the moment.

81

### The Dead Weather

Dean Fertita and Jack Lawrence discuss *Dodge and Burn*.

91

### Eagles of Death Metal

Jesse Hughes on the grooves he makes with friend Josh Homme.

103

### Mary Halvorson

A Guild, a RAT, and a Line 6 DL4 fueled her new solo album.



37

### Israeli Luthiers

Despite limited resources, lutherie has caught on in Israel and the scene is growing.

117

### Soldering 101

Learn to solder like a pro in this easy-to-follow, visually guided demonstration.

133

### Potentiometer & Cap Swapping

Frank Falbo shows you how to tweak your tone for next to nothing.

145

### Strat Pickup Roundup

We test five high-end sets in a carefully calibrated guitar.

## REVIEWS

166 **EarthQuaker Devices** Park Fuzz Sound

166 **MXR** M238 ISO Brick

167 **Ultimate Ears** UE 7 In-Ear Monitors

167 **Maxon** BD10 Hybrid Bass Driver

169 **Peavey** 6505 MH

173 **Catalinbread** Fuzzrite

176 **PureSalem** El Gordo

179 **Mission Engineering** Delta III Si

182 **Michael Kelly** Triad 10E

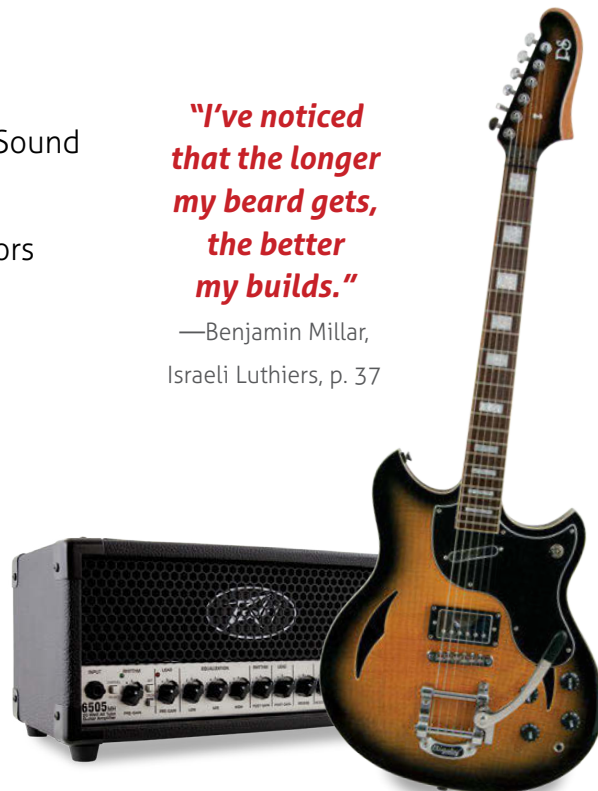
185 **JColoccia** Big Cannoli

188 **Dean Zelinsky** Mule Bass

191 **Stomp Under Foot** Rhinoceros

*"I've noticed that the longer my beard gets, the better my builds."*

—Benjamin Millar,  
Israeli Luthiers, p. 37







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## On the Cover:

Gary Clark Jr. with his  
Gibson SG Standard.

Photo by  
Jon Weiner



# CONTENTS

November 2015



**20** Gear Radar

**23** Opening Notes

**164** Tools for the Task

**194** Staff Picks

**206** Esoterica Electrica

**208** Last Call

*"As Stevie Ray  
Vaughan said,  
'Pray through  
your guitar.'  
When words fail,  
music speaks."*

—John Bohlinger,  
Last Call, p. 208

## GEAR

**28** Rig Rundowns

**32** Vintage Vault

**34** Bottom Feeder

**62** Tone Tips

## HOW-TO

**78** Acoustic Soundboard

**126** Guitar Shop 101

**128** On Bass

**130** Bass Bench

**156** State of the Stomp

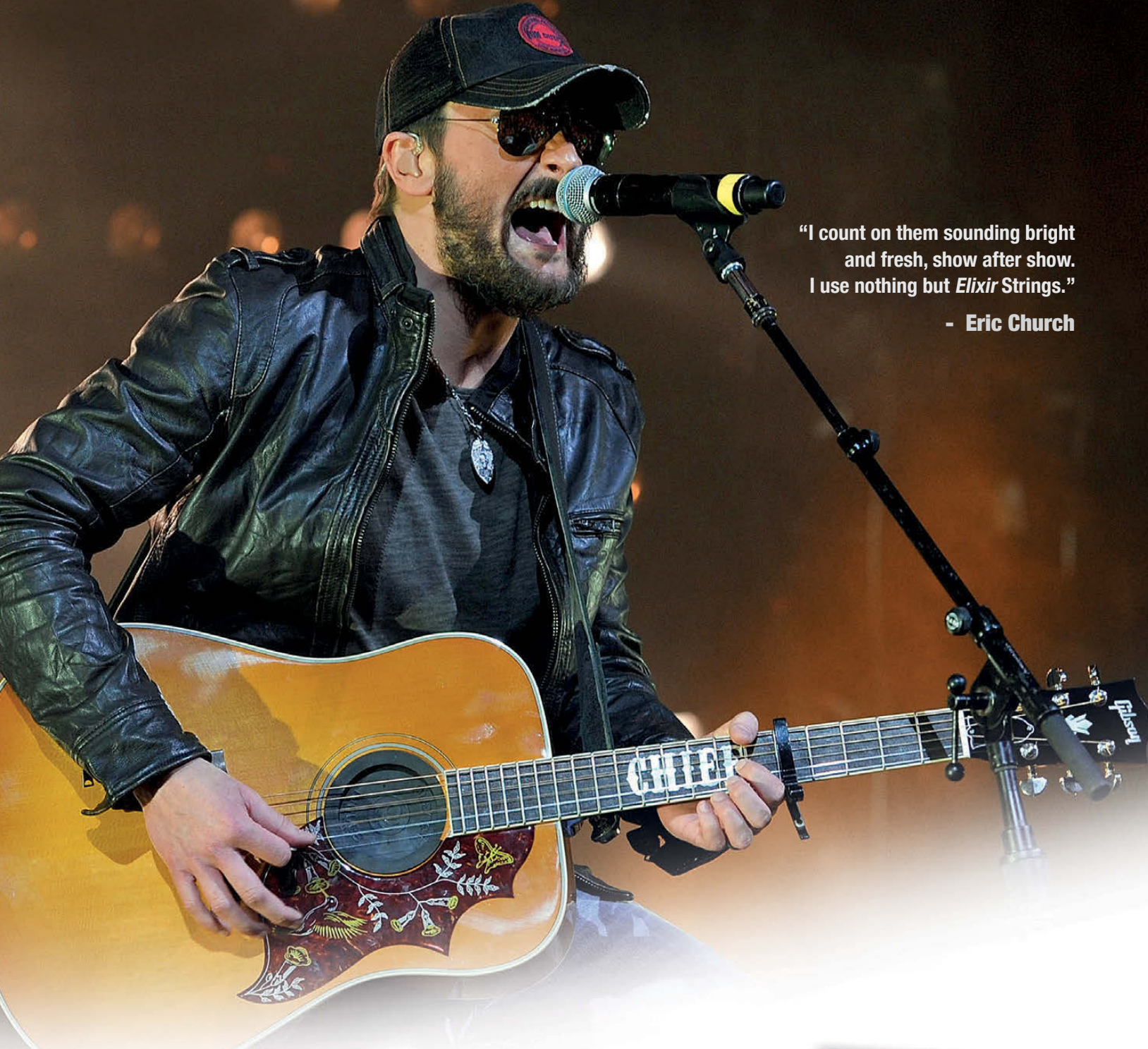
**158** Mod Garage

**160** Ask Amp Man



Top left: Photo by Rich Osweiler





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## FEATURED



### Steve Vai Takeover

At this point in his 30-year career, there's not much about **Steve Vai** that hasn't been covered before. Luckily, some of our more astute Facebook fans kept Vai busy for nearly two hours as he took over *Premier Guitar's* Facebook page to field questions. The guitar guru was extra candid, opening up about a smorgasbord of topics ranging from the influence of his former boss **Frank Zappa**, to some setlist spoilers for his upcoming Rock in Rio gig, to the bee colony that **Bette Midler** gave him. And just so you know, Vai's 10-hour guitar workouts are a thing of the past. "If I still did those, I would be as good as some people think I am," he says. Check out highlights from Vai's expansive Q&A in our feature "**10 Things We Learned from Steve Vai**" online now at [premierguitar.com/nov2015](http://premierguitar.com/nov2015).



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By Dustin Prinz

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**Sarod Madness**  
By Jared Meeker

**COSMIC COUNTRY**  
**Get Rhythm!**  
By Daniel Donato

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**Scott Henderson**  
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## NEW FOOTAGE

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In our video series, "**What Bohlinger Plays**" *Premier Guitar's* Nashville correspondent **John Bohlinger** reveals his personal playing tips and tricks in short, bite-sized lessons. In the latest installment, the **Lee Brice** sideman pairs a hybrid-picking technique with sophisticated sounding chromatic-scale moves you can easily move around the fretboard in a variety of styles and keys. Go watch "Hybrid Pickin' Double-Stoppin' Chromaticism" right now to see what one *PG* subscriber called "full-on sickness."





## GUITARDOM'S TOP TWEETS

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—@DantzGuitar



*...In other news here's a jaw dropping  
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—@\_Brendonsmall

*Black Sabbath's 2016 farewell tour  
doubles as the 16th anniversary of their  
last farewell tour.*

—@greeneandy



*Mini-pedal board v1 assembled.  
Next step: wiring. @tcelectronic  
@jimdunlopusa @ibanezofficial  
@Xoticusa*

—@daveweiner

*Listening to Van Halen soundcheck  
across the neighborhood with the  
windows open. You can tell when it is  
Eddie and when it isn't. So great.*

—@EmilWerstler

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6



9



7



8



10

6

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[ampeg.com](http://ampeg.com)

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[vvamps.com](http://vvamps.com)

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## READER GUITAR OF THE MONTH



**Name:** Charlie Johnson

**Location:** Lusby, Maryland

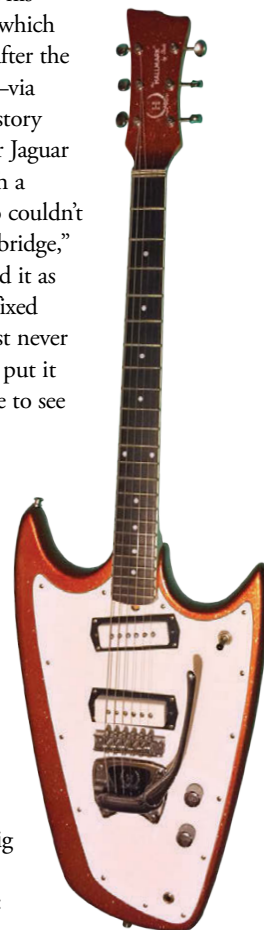
**Guitar:** Hallmark Swept-Wing

Charlie Johnson acquired his Hallmark Swept-Wing—which he nicknamed “Ginger” after the *Gilligan’s Island* redhead—via Craigslist in 2013. “The story starts with an MIJ Fender Jaguar that made its way through a couple of my friends who couldn’t get past the troublesome bridge,” Johnson shares. “I received it as a birthday present and I fixed the bridge issue, but it just never grew on me. I decided to put it on Craigslist for sale/trade to see what I could get.”

Johnson received a response proposing a trade for this futuristic-looking axe. “I had to have it,” he says. “The guitar had a string missing, but I knew there was some mojo there. I took it home, set it up correctly, and voila! I played it at my band Don’t Call Me Shirley’s gig that night!”

The story gets deeper: The guitar’s former owner had previously found a beat-up, unplayable 1960s Swept-Wing at a yard sale. “He contacted Bob Shade—the man who resurrected the brand—in Greenbelt, Maryland which is about 1.5 hours from where I live,” Johnson says. “Bob traded him this new one for the old one.”

Johnson says his guitar is one of a limited run of 10 that Hallmark made in orange sparkle. The 25.5"-scale guitar has 23 frets and features a mahogany body, maple neck, rosewood fretboard, and custom Bob Shade hardware. “It’s meant to be a ‘surf’ guitar, but I’ve played just about every style of music with it. The custom pickups cut through any mix and the neck is as comfortable as it gets. Great craftsmanship from Hallmark all around!”



Send your guitar story to  
[submissions@premierguitar.com](mailto:submissions@premierguitar.com).





## OPENING NOTES

### **Matt Mason**

August 9, 2015  
Golden Gate Park  
San Francisco, CA  
*Photo by Rich Osweiler*

The DMA's lead guitarist gets the final day of San Francisco's Outside Lands festival rolling with his current No. 1 that's on loan from Gibson's New York HQ: a stock (sans the removed pickguard) 2007 ES-339 with a fat, '50s-style neck.







## OPENING NOTES

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### Jason Isbell

August 12, 2015

The Wiltern

Los Angeles, CA

Photo by Lindsey Best

The alt-country rock stalwart brings the goods with his numero uno, the 2011 all-stock Duesenberg Starplayer TV goldtop he favors for its excellent playability, Bigsby-style vibrato, and pickup configuration. “I love having a bright, fat single-coil in the neck and a hot humbucker in the bridge,” Isbell tells *PG*.





## OPENING NOTES

### Marcus Mumford

August 7, 2015

Golden Gate Park

San Francisco, CA

Photo by Rich Osweiler

The Mumford & Sons frontman fires up an Outside Lands crowd while armed with one of his two main Martin D-28s. Mumford calls this particular dread “Ashley,” and it’s outfitted with a Fishman Rare Earth Humbucking pickup and set up to accommodate his playing style, which his tech describes as “hitting the strings incredibly hard with low tunings.”







## OPENING NOTES

### Kevin McKeown

July 31, 2015

Grant Park

Chicago, IL

Photo by Chris Kies

The guitar half of duo Black Pistol Fire takes flight during their Lollapalooza set with his all-original '89 Epiphone Sheraton II. McKeown loves its humbucker sound and tells *PG*, "It was my first guitar I ever bought with my own money—got it at a vintage guitar store in Toronto with my pops when I was about 16 or 17 years old."





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THE  
MUSIC ZOO



Dusty Hill and Billy Gibbons

## ZZ TOP

*The kings of Texas boogie, ZZ Top's Dusty Hill and Billy Gibbons, have used many of the same pieces of gear for decades, but PG's Tessa Jeffers recently met up with their longtime tech, Elwood Francis, to get the scoop on what's new.*

## GUITARS &amp; BASSES

**Top:** Dusty Hill's new No. 1 bass matches Billy Gibbons' No. 1 guitar, and both are chambered John Bolin creations. The new designs are called the "Peeler" guitar and bass, because of the paint-peeling look, which is a laminate sticker design that was inspired by the peeling finish of a flood damaged '56 Precision bass. All of Hill's basses are '50s slab-body Precision basses that feature Babicz bridges and stacked Seymour Duncan Precision reissue pickups. The bridge pickup in Gibbons' T-style is a Cream T Billy Gibbons signature Banger and Mash.

**Bottom:** As a gift for Hill, Francis custom-painted a mural of Hill's hero, Freddie King, on the back of this bass. Francis outfitted the bass with knobs from an old camper, and Francis' daughter found some rusted metal for the pickguards. Francis says a future project might be painting a B.B. King guitar for Gibbons.

## FACTOID

*In 1968 Hendrix gave Gibbons a pink '58 Strat as a token of admiration.*







## GUITARS & BASSES CONT'D

**Far left:** The newest guitar in Gibbons' arsenal is this chambered T-style made in tandem with luthier Charles Whitfill. The pickups are made by Onamac Windery, both the visible one in the bridge, and a hidden pickup near the end of the fretboard.

**Left:** Gibbons' current encore guitar is "Lil Red," a '61 Reissue Les Paul SG with a disconnected sideways tremolo. Francis says he disabled it because it's a tuning nightmare, but he left it visually intact for the mojo. The bridge pickup is a Seymour Duncan Pearly Gates and the stock neck pickup is disconnected. Gibbons uses his signature Dunlop Rev. Willy's Mexican Lottery strings (.007, .009, .011, .020, .030, .038) on all of his guitars.

## PEDALS

The few pedals Gibbons currently uses live include an MXR Bass Octave Deluxe, an MXR Carbon Copy for slap delay, a Tech 21 MIDI Mouse, and a Peterson tuner. A Jimi Hendrix Octavio Fuzz runs through the Boss GE-7 Equalizer separately on one channel.



Carl Broemel

# MY MORNING JACKET

## FACTOID

In 2007, Broemel made Rolling Stone's list of 20 New Guitar Gods.

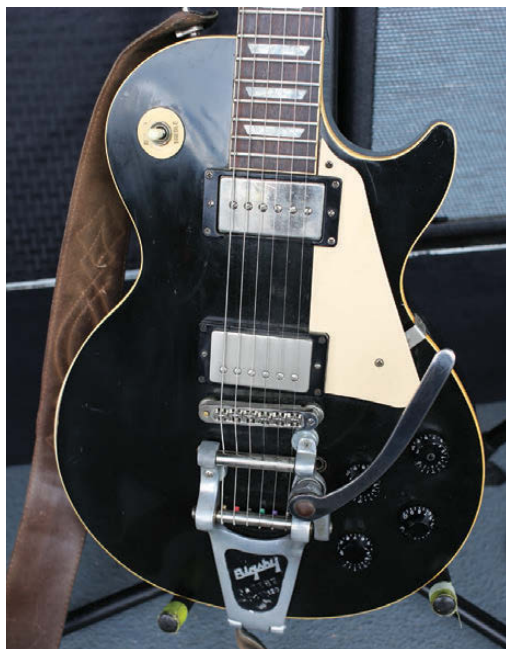
Premier Guitar's Perry Bean met with MMJ's Carl Broemel before the band's Nashville date in support of their latest album, *The Waterfall*, to get the latest on their road rigs.

## GUITARS

**Top left:** Broemel's No. 1 is his 1988 Gibson Les Paul Standard with an added Bigsby and Gibson P-94 in the neck. All of his Gibsons are strung up with D'Addario 115s.

**Top right:** This semi-hollow Duesenberg Starplayer TV was obtained right before the band started to work on *Circuital*. And all his Duesys are loaded with D'Addario Light Top/Heavy Bottoms EXL140s.

**Bottom:** When Broemel wants a more "rocking version" of his Starplayer he reaches for this Duesenberg Caribou.













# 1948 Gibson L-5 Premiere Natural

BY DAVE ROGERS, LAUN BRAITHWAITE, AND TIM MULLALLY

With their carved tops and backs, Orville Gibson's fretted musical instruments were inspired by the construction methods used for violins, and by the late 1890s his groundbreaking designs had brought the company he founded great success. Lloyd Loar, Gibson's acoustic engineer, took Orville's inspiration a step further in the early 1920s by designing a family of high-quality instruments with violin-style f-holes. This "Master Model" group created by Loar and his team included the F-5 mandolin, the H-5 mandola, the K-5 mandocello, and the L-5 guitar.

The first 16"-wide L-5s were made at the end of 1922 and received similar decorative adornments to the F-5, including the famous flowerpot headstock inlay. The 16" L-5 began to change subtly after Loar left the company in 1924, with the most obvious cosmetic difference being the addition of pearl block fretboard inlays replacing the original plain dots. The L-5 evolved from its original 16" width to its current 17" width in 1934 in response to Epiphone's line of "Masterbuilt" archtops. Epiphone's high-end models measured 16 3/8" wide at the time, so Gibson retaliated by widening its leading archtops (and unveiling the 18" Super 400). Another innovation (besides offering a natural finish option) occurred in 1939 when a rounded cutaway was added to the body on the treble side to allow easier access to the higher frets. The L-5 Premiere was such a hit that the standard non-cutaway L-5 was discontinued by 1958.

World War II nearly brought guitar construction to a standstill while the Gibson factory concentrated on the war effort. Full production was not resumed until 1947.


The L-5 featured this month was made at the end of 1948, and is among the last to have the prewar script logo on the headstock. The inside label still reads L-5P, which by 1949 would be changed

to L-5C (for cutaway). Due to a postwar ebony shortage, the fretboard on this example is Brazilian rosewood. Regular use of ebony for L-5 fretboards commenced again in 1950. The rest of the guitar has traditional L-5 features, including a carved spruce top with single-ply bound f-holes, figured maple back, rim, and neck with multi-ply binding, gold-plated Kluson Sealfast tuners, and a gold-plated Art Deco tailpiece.

From the time of its introduction in 1922 until today, the L-5 has been considered one of the finest jazz guitars. Jazz greats Eddie Lang, Allan Reuss, and Wes Montgomery played versions of this classic model.

Gibson shipped 21 L-5CN guitars in 1948. The 1949 list price was \$465.

The current value for one in excellent all-original condition is \$12,500.

Sources for this article include *The Gibson L-5: Its History and Its Players* by Adrian Ingram, *The Gibson Super 400: Art of the Fine Guitar* by Thomas A. Van Hoose, *Gibson Shipment Totals 1937-1979* by Larry Meiners, and *Gibson Guitars: 100 Years of an American Icon* by Walter Carter. 

## DAVE'S GUITAR SHOP

Dave Rogers' collection is tended by Laun Braithwaite and Tim Mullally and is on display at:

Dave's Guitar Shop  
1227 Third Street South  
La Crosse, WI 54601  
davesguitar.com

Photos by Mullally and text by Braithwaite.

**Opposite page:** This 1948 Gibson L-5 boasts a carved spruce top and figured maple back and sides.

**Below:** This '48 L-5 is one of the last to sport Gibson's prewar script logo.





To hear this guitar,  
head online to  
[premierguitar.com](http://premierguitar.com)

# 2001 Epiphone Firebird VII

BY WILL RAY

**O**ddly enough, I've never owned a Firebird. I suppose I just never cared for the shape and the pickups, which are usually mini-humbuckers. But a while back I was doing an eBay search for Epiphone guitars and ran across this one (**Photo 1**). It's a 2001 Epiphone Firebird VII '63 Reissue in vintage sunburst. But here's what interested me: Someone had swapped out the original gold mini-humbuckers for black "dog ear" P-90s.

Of all the pickups from the Gibson side of the fence, P-90s are my favorites. They're fat-sounding single-coils with a nice midrange bark. So when I saw this Firebird, the picture spoke to me. Something about the tobacco sunburst with gold Vibrola and hardware, reversed headstock, and the look of three P-90s just wowed me. It's one of those things you can't explain—guitar love at first sight.

The only bad thing was that the previous owner had done a rather poor job enlarging the pickup cavities for the P-90s and had gouged the wood in a few places around two pickups (**Photo 2**). I figured once the guitar was onstage, no one would ever see the damage, so I decided to keep an eye on it. At the last minute I sniped it, winning it for \$340 plus \$45 shipping. The price was a bit above my usual bottom feeder range, but something told me to go for it.

I received it a week later. After carefully unpacking it, I just sat and stared for a moment at the beauty of the guitar. Then I played it unplugged.

It rang out nice and strong and for a solidbody, it had a nice acoustic tone. I plugged it into the Vox DA-5 portable amp that greets every new guitar in my house. The neck and bridge pickups both sounded pretty good, but bringing in the middle pickup seemed to throw everything out of phase.

**“Of all the pickups from the Gibson side of the fence, P-90s are my favorites. They're fat-sounding single-coils with a nice midrange bark.”**

I could have whined to the seller about the wiring, but the guitar does exactly what I need it to do. Besides, if I turn the middle pickup down (each pickup has its own volume control) and just use the selector switch like on a normal two-pickup guitar, I get my main sounds. Down the road when I have more time, I'll reverse the wiring of the middle pickup, which I suspect is simply out of phase. Until then, the Firebird works just fine with the two main pickups: neck, bridge, and both.

**Bottom Feeder Tip #235:** Pick your battles. If a guitar is inside your “acceptable” zone and you really like it, let little things slide.

So is it a keeper? Yeah, for now, because it has a nice Gibson P-90 sound, plus it just looks cool! What else is there? 🍷



**WILL RAY** is a founding member of the Hellecasters guitar-twang trio. He also does guitar clinics promoting his namesake G&L signature model 6-string, and produces artists and bands at his studio in Asheville, North Carolina. You can contact Will on Facebook and at [willray.biz](http://willray.biz).





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- Premier Guitar, June 2015



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# ISRAELI LUTHIERS

*Despite limited resources, lutherie has sprung up in Israel—and the scene is growing.*

BY TZVI GLUCKIN



Tsahi Grimberg, an Israeli guitarist, technician, and builder.



Israel—the land of milk, honey, and guitar building. Obviously. Modern Israel isn't what most people expect. It isn't a backwater of biblical ruins, a desert wasteland, or what you see in the news. Israel's cities are diverse, cosmopolitan, and multicultural. They support a thriving and eclectic music scene and produce some of the world's top artistic talents.

A small clique of repairmen and techs services Israeli musicians. They make modifications, suggest improvements, repair damage, service instruments, and—in a somewhat recent phenomenon—build new guitars.

Tsahi Grimberg, an Israeli guitarist, technician, and builder, introduced *Premier Guitar* to the Israeli luthier scene. "Over the last 10 years, a lot of people have started building guitars," he says. "Israel has a very small market and some of these guys do great work. But they don't get any exposure."

The Israeli scene is hyper-innovative, diverse, eclectic, and growing. It's producing quality, high-end instruments, but it's also a tight-knit scene. According to Grimberg, "It's one big family. Everyone knows each other and hands off clients to each other."

*Premier Guitar* spoke with a number of these Israeli builders to find out more about what's happening in guitar on the other side of the planet.



## YARON NAOR GUITARS

"I worked in industrial design," Naor tells *Premier Guitar*. "I was supposed to solve these problems. I dealt with the interface between the machine and the operator. I thought about ergonomics. I made things comfortable." He did that for machines, so why not for guitars? So he decided to build one.

It helped that his hobby was woodworking. "I spent a lot of time in New England for my job in high tech," he says. "But I spent most of my time traveling to woodworking shops in Massachusetts, New Hampshire, and Maine." He took classes. He talked to people to learn what they did. He accumulated a wealth of woodworking know-how and even had a woodworking studio in his house.

He knew how to work with wood by building cabinets and furniture, but woodworking and guitar building are different crafts. Naor didn't know much about guitar construction and he wasn't about to take a luthiery course in Cremona, Italy (home of Stradivarius and the mother of modern luthiery). So he read books, watched a few videos, and got to work.

His friends, ever the cynics, told him it would take a year to build a guitar and it probably wouldn't work. He finished in three months, and—surprise—it worked! Not only that, it sounded great.

"People said, 'This guitar sounds fantastic,'" Naor remembers. "They asked me, 'Who built this?' And I said, 'Me.'" He built four or five guitars based on his original designs, first for friends and then for clients. It was something he did at night after work. He didn't quit his job in high tech yet—but he didn't have time to make furniture anymore.



His original design had an unusual shape, but was otherwise a standard guitar. "I only changed the shape of the soundhole, contour, and shape of the headstock," he says. "I didn't make any changes to the structure, design, or the inside."

But some things about traditional guitar design now bothered Naor, quirks that most people don't question. He thought the soundhole was a problem. The guitar's top, the soundboard, produces the guitar's sound. It's similar to a speaker cone. You wouldn't cut a hole in a speaker, so why cut a hole in the middle of the soundboard? He asked other builders, but no one had a good answer. It was just something you did: The guitar has a hole in the middle—deal with it.

Worse, that hole weakened the top and necessitated additional bracing to keep the instrument from collapsing. Most builders use an X-shaped brace, but Naor doesn't like it. He feels the X-shape isn't an organic brace found in nature and it offends his aesthetic sensibilities.

Another problem was that most builders glued the part of the fretboard that extends past the joint where the neck is attached directly onto the soundboard. "That doesn't make sense either," Naor

**Right:** Luthier Yaron Naor's bracing is inspired by the tree leaf. "You have the main vein in the middle," he says. "It has joints and branches that grow off the stem."

Yaron Naor lives and builds guitars in Bat Hefer, an Israeli village north of Tel Aviv and inland from Netanya.

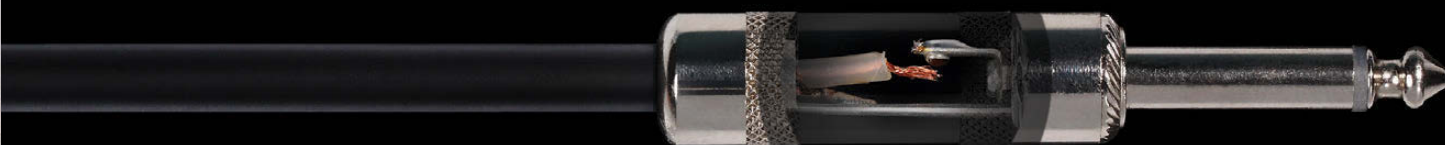
Naor's guitar designs are quite innovative. Radical bracing, floating fretboards, unorthodox soundhole placement, and other features are attracting the attention of musicians and builders alike.

Naor builds acoustic and electric guitars, including bodiless, electric versions of traditional acoustic instruments, Baroque and Renaissance-era instruments, and new-fangled contraptions, such as an electric mandola-oud and a double-neck 9-string mandolin joined to an 11-string fretless guitar. His innovations aren't just merely cosmetic—they aim to enhance the instrument's tonal characteristics, boost dynamic performance, and improve playability. They make ergonomic sense, and he says some of them project significantly louder than other guitars. "Naor is Israel's most innovative builder," says Grimberg.

But guitar building wasn't always on the radar for Naor, who studied industrial design at university and worked in high tech for 19 years. He bought his first guitar when he was in his early 40s (he's 51 now). He wasn't interested in becoming a virtuoso: He just thought it would be fun to strum chords at night around the campfire.

But Naor likes to tinker. He noticed that his guitar wasn't perfect. It bothered him that his forearm stuck to the upper bout when strumming and that its edge left an annoying indentation in his skin. And the neck bothered him too—he thought it was too thick.





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Search YouTube for "Nadav Bachar Yaron Naor" to see this special instrument in action.

## TRANSITIONING BETWEEN TONES

Nadav Bachar is an Israeli multi-instrumentalist who plays the guitar, oud, and other Middle Eastern instruments. His music often necessitates switching instruments mid-song. That can be confusing, especially since the instruments are tuned differently. He needed an instrument that would let him transition between sounds more easily, with at least two necks in standard guitar tuning, but designed to mimic the timbres of the oud and other non-guitar sounds.

Bachar heard that Yaron Naor did good work and that his prices were reasonable. They met, discussed the instrument, felt a connection, and decided to give it a try. "I explained my fantasy and he told me what he could do," Bachar tells *Premier Guitar*. "Naor explained the different obstacles he would have and what was possible and what wasn't."

They built a doubleneck 9-string mandolin/11-string oud. The upper neck, the mandolin, is tuned E-A-D-G-B and except for the low E, the upper four strings are doubled. The lower neck, the oud, is fretless and tuned like a standard guitar. The upper five strings are doubled (not in octaves like on a 12-string guitar but in unison like on an oud). Each bridge has an under-saddle piezo pickup.

Naor had to experiment to get the bracing right. "The tension of 20 strings is very strong, and we didn't know what it could handle," Bachar says. "It took a few attempts to figure that out." It also took a few live performances to settle on the best way to configure the pickups. Each neck can be isolated or ring in sympathy with the other.

"You need to be crazy if you want to build that kind of instrument," Bachar adds. "It's an adventure. You don't know what is going to be."

But it seems to have worked out for everyone involved. The result is a typical Naor creation: leaf bracing, easy to play, minimal ornamentation. According to Bachar, it has a full, rich sound and—unlike most fretless guitars—the fretless neck boasts warm tones and significant sustain.

says. "Gluing the fingerboard to the soundboard is like sticking your finger on the speaker cone. You wouldn't do that."

His interest piqued, he got to work. He examined natural membranes. He looked at tree leaves. He collected about 100 leaves, dried them, scanned them, and looked at them in Photoshop. "I tried to find the repeatable pattern that you see in a leaf," he says. "A leaf is an example of natural bracing. You have the main vein in the middle. It has joints and branches that grow off the stem."

Naor wanted to try some of his ideas so he built an experimental guitar, developing a bracing system based on the bracing he noticed in these leaves. He created a fretboard that floats over the soundboard instead of touching it. He made the guitar in the shape of a teardrop and put soundholes in the upper and lower sides, near the neck joint. And he added a woodblock to make the instrument easy to play when seated.

He ran a few tests. He recorded samples, uploaded them to a sound-editing program, and compared them to samples of other instruments. According to his measurements, his guitar was 30 percent louder. It had better sustain, too. And it was a *better* sustain—the pitch stayed stable and didn't warble or go flat as the note lingered. Plus, his guitar was comfortable and easy to play. It was properly balanced. He even rounded the upper bout so it didn't dig into his forearm.

That experimental guitar was a watershed for Naor. He took those insights—leaf bracing, floating fretboard, unorthodox soundhole placement—and applied them to other instruments. He built ouds, mandolins, mandolas, classical guitars, and more. The results were the same: louder, more and better sustain, easy to play. He was onto something. His design aesthetic is most noticeable on fretless instruments, which often produce a quiet thud. Naor's fretless guitars have







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Naor quit his high tech job in 2009 and now builds guitars full time, working alone to produce between 20 and 24 handmade instruments a year. He usually works on two or three instruments at a time, and one of those is usually experimental. He doesn't have an assistant or an apprentice (though he does have students) and he hopes to keep it that way.

He builds his own jigs, bridges, and wooden tuners for his Baroque, Renaissance, and traditional instruments. "I make everything except for the strings and the machine heads," he says. His aesthetic is minimal and his instruments have almost no ornamentation. "I like to keep it simple. I don't like binding. I don't like glue filling." He doesn't do fancy inlays either.

Naor also builds radical electrics guitars. In addition to solidbody electric guitars (including the Fenderson: Strat-style body, two humbuckers, and a Les Paul-scale neck), he builds bodiless electric versions of traditional Middle Eastern instruments and innovative hybrids. One example is a solution he devised for Israeli mandolin virtuoso Yaki Reuven.

Reuven found it a challenge trying to blend the mandolin's high register in an ensemble of traditional Middle Eastern instruments. It was too shrill, and the frets

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**"Gluing the fingerboard to the soundboard is like sticking your finger on the speaker cone. You wouldn't do that." —Yaron Naor**

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made it difficult to play quarter-tones. Naor's solution was the mandola-oud: a mandola (an alto mandolin, tuned a fifth lower) but fretless and with a ninth, undoubled bass string like an oud. The mandola-oud is electric and bodiless—it has just the wood outline of an oud body—with a piezo pickup under the bridge. The result is a rich, full-sounding, adaptable instrument.

Naor uses spruce tops for his acoustics—any spruce will do—and isn't picky about the woods he uses for the bodies and necks. He can't be, since most woods have to be imported into Israel. When he traveled for his high-tech job, he bought his wood overseas, but today he orders it online.

He says his biggest setback is Israel's isolation. "If I lived in the States, I would have a waiting list," he says. "I don't have that in Israel. The market just isn't big enough."

Despite that challenge, Naor is a full-time builder who has the freedom to innovate and experiment.





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## BLOODY JOHNY GUITARS

New York where everyone is formal,” he says. “Israel is informal and it’s an easy way to get things done.”

Tsfaty’s first meeting with a customer is like a hangout: They listen to music, drink coffee, and talk guitars. Next, he watches the customers play, observing how they sit and hold the guitar. He looks for quirks and idiosyncrasies and tries to understand his customers’ playing style. He makes a mock-up—a first draft of the design—and uploads that to his computer. They email back and forth, discuss the instrument, make improvements, and meet a few more times. The process takes about three weeks. “Once I have the simulation and full specs, then I start building,” Tsfaty says. “I argue with my customers, too, if it’s what is best for the instrument. Though they don’t always agree with me.”

Tsfaty’s instruments are handmade. He uses electric tools for the obvious stuff—cutting the rough body shape, routing the cavity for the electronics—but otherwise he uses manual tools: planes, knives, chisels. “Working this way is best for a small shop like mine,” he says. “I have the most control. In a big factory, making thousands of instruments, a glitch isn’t a big deal. You can just discard it. But I don’t have that luxury.”

Like other Israeli builders, Tsfaty can’t be too picky about wood. Basic woods such as mahogany, maple, walnut are available, as are some African woods. But exotic tone woods and figured woods are rare and cost a fortune to import. “Just the raw wood can cost \$250,” says Grimberg.

Scarcity and limitations of materials is a big challenge, but not the biggest one. Tsfaty finds that Israel’s small music scene makes it difficult to earn a living just building instruments. Most take other work doing setups, repairs, and mods. And some builders have day jobs (Tsfaty builds cabinets).

But despite this, the scene isn’t cutthroat. Israeli builders stick together



and even send each other business. In a way, those limitations give them freedom. “Johnny Tsfaty only builds what he wants,” Grimberg says. “If a customer really wants a Les Paul, Johnny won’t build it. He tells him where he can get a Les Paul.”

Tsfaty only builds about six guitars a year, and the customer is involved in every step of the process. “I’m not selling a guitar,” Tsfaty adds. “I’m selling a relationship. I have a lot of musician friends now.”

Johnny Tsfaty only builds what he wants. “If a customer really wants a Les Paul, Johnny won’t build it,” says Tsahi Grimberg. “He tells him where he can get a Les Paul.”

Johnny Tsfaty is Bloody Johnny Guitars. His instruments have radical shapes, unusual inlays, LED-illuminated fretboards, an über-hip ox skull logo, and are available in colorful and diverse tonal choices. Tsfaty’s customers tend to be metalheads and bass-thumping funkateers, though he says he’ll build anything for anyone.

His instruments aren’t all about looks though—Tsfaty wants them to be versatile, playable, and personal. The hallmark of Bloody Johnny Guitars is his distinctive, one-of-a-kind stamp. “I create solutions and solve problems,” Tsfaty tells *Premier Guitar*. “I build something unique, tailor-made for that customer.”

Tsfaty got his start winding pickups, but found that work to be monotonous. (Or as he put it, “I got really bored winding pickups.”) He learned carpentry as a kid and had a knack for it. “I played in a band and loved the guitar,” he says, “but I realized that my contribution was going to be as a craftsman, not as a performer.”

He decided to give guitar building a shot. He read *Building Electric Guitars* by Martin Koch and got to work. He also befriended Herzel Raz, known as Israel’s guitar doctor and a legend within Israel’s insular circle of guitarists, repairmen, and builders. Tsfaty showed Raz his guitar at different stages during the build, and Raz offered advice and encouragement. That first guitar was a success. “I thought it was going to be a disaster,” he says. “But it wasn’t. My friends kept borrowing it. They’re still borrowing it.”

He built guitars for friends, his friends told friends, and soon Bloody Johnny Guitars was open for business. Tsfaty’s business model is casual. “It isn’t like



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**Right:** One of Benjamin Millar's more radical designs is the YS-II. It's a "bouzoukitara"—a doubleneck bouzouki/guitar created for musician Yossi Sassi.

Benjamin Millar Guitars is based in Givatayim, a city just east of Tel Aviv. Millar has a small shop where he does repairs, mods, and setups, but building is his passion because he likes pushing himself. He builds instruments that other builders won't attempt and his clients include Oriental rocker Yossi Sassi and bassist Or Lubianiker (Marty Friedman, Gus G.).

Millar started out in the early 2000s. He was in a band and one of their guitars needed work. "I made a few modifications," he tells *Premier Guitar*. "I made a few weird mistakes, too." He worked in piano restoration, a job that gave him access to a workshop and tools, and took a guitar-building program at the Algranati School, a one-year luthiery course based in Ramat HaSharon. The teachers at Algranati liked Millar and hired him to do setups and repairs after he completed the program. Between piano restoration and working for Algranati, Millar honed formidable guitar-building chops and went solo in 2009. He opened his small shop, kept doing repairs, and built a few instruments for friends. In the past five years, he's built up a base of clients.

One of Millar's more radical designs is the Bouzoukitara, a doubleneck bouzouki-guitar combo he built for Yossi Sassi. Sassi often switches instruments mid-song—a reason many people

## BENJAMIN MILLAR GUITARS

choose to use doublenecks—but he also wanted to preserve the integrity of an acoustic bouzouki alongside a solidbody electric. Millar's creation does just that: A traditional, acoustic bouzouki is fused to a solidbody electric. The instrument looks like a normal doubleneck from behind, but two separate instruments from the front.

The first Bouzoukitara was built in 2011. After a few years of use live and in the studio, Sassi wanted an upgrade. The next generation, the YS-II, is a leaner, meaner Bouzoukitara. It's smaller, lighter, thinner, and easier on the body. Millar set the different necks at different angles. He sloped the upper bout inward, making it easier to pick. He also upgraded the electronics to give Sassi more sonic control.

Millar's instruments are handmade and he works alone, but he finds the environment stimulating. "When you build a completely new instrument—an instrument that doesn't have a reference model—you're the only one who can say if it's good or if you should wait," he says. "It's a constant mind struggle. But that's why I like this—you don't stagnate."

He likes building the guitars, but he doesn't like ordering materials. Waiting for parts creates an unnatural lull. "You agree to a design, you collect the money, you place the order, and you wait," he says. "How long is up to the Israeli postal service. It can be a slow process."


Millar also has trouble getting equipment. Guitar-building tools are very specific and not available in a small market like Israel, and taxes and tariffs can often double the price. Millar makes do, but some Israeli builders improvise. "For most

situations, we find solutions," Grimberg adds. "But that may mean building your own tools. You have to be creative."

Millar is optimistic. He has a great reputation for building high-end instruments, and his business is growing. Plus—and he thinks this is significant—he's growing a healthy beard. "I've noticed that the longer my beard gets, the better my builds."



## THE FUTURE

The guitar-building community in Israel is relatively small. "Israeli luthiery is in its infancy," says Naor. "We don't have a hundreds-of-years tradition." But Israel is catching up. Israeli builders are innovating, experimenting, and producing quality instruments. Builders are frustrated by some limitations within their country, but no one is thinking of leaving. "Every builder would love to go to the States because the market is so much bigger," Grimberg says. "But we stay because Israel is home." 



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# NO BACKUP PLAN

*At the vanguard of the new blues revival, Gary Clark Jr. is earning buzz and accolades for The Story of Sonny Boy Slim. But the innovative bluesman says he wasn't made for these times.*

BY JOE BOSSO

**J**ust in case this whole hotshot axe-man thing didn't pan out, Gary Clark Jr. had a backup plan—more than a few of them, in fact. “My mother used to say to me, ‘What if you can't be a guitarist? What then?’ So I told her, ‘If the guitar doesn't work out, then I'll play drums. If that doesn't work, I'll play bass. If that doesn't work, I'll play keys. And if that doesn't work, I'll play trumpet.’ Or whatever. The backup plan was always music. There was never any two ways about it.”

The funny thing is, Clark made good on most of his promises. While he doesn't play trumpet on his musically diverse and compelling new album, *The Story of Sonny Boy Slim*, the 31-year-old singer-guitar star gives pretty much everything else a go, functioning as a veritable (and astonishingly versatile) one-man band, tackling drums, keyboards, bass, finger snaps ... oh, and, of course, the guitar. The album brims with the kind of fiery, emotive, and imaginative 6-string work that has prompted some writers to compare Clark to Jimi Hendrix and Stevie Ray Vaughan. But

the Austin native is anything but a strict traditionalist, and on the new set he weaves psychedelic and Delta blues, chillaxed retro-soul, acoustic gospel, and gonzo garage rock into a personal sonic tapestry that's as daringly au courant as it is classic.

“I love playing guitar, but I get a lot of satisfaction from playing other instruments, too,” Clark says. “My sister started playing drums when I played guitar. She kind of lost interest, so there was this nice shiny drum kit waiting for me. I just sat down and figured it out. We had keyboards in the house, so I started playing them, too. I wanted to record my own demos, and little by little, just by doing gigs, I acquired enough gear to get things going. Nobody showed me how to record—I figured it out by myself.”

Clark put his self-taught production chops to the test on *The Story of Sonny Boy Slim*. Whereas his 2012 major-label debut, *Blak and Blu*, was a Los Angeles-based, three-way co-production between himself, Rob Cavallo, and Mike Elizondo, for the follow-up the guitarist set up shop at Austin's Arlyn Studios with a trio of

engineers, Bharath “Cheex” Ramanath, Jacob Sciba, and Joseph Holguin.

“It's a whole different vibe making a record on your own than working with producers,” Clark notes. “The guys in the studio would sometimes say, ‘No, dude, that wasn't good enough’ or ‘That was cool. *That's* the take.’ We did have those conversations. But I do think working on my own changes the way I play a bit. I feel more free—I feel open, like I'm at home. If I can feel completely comfortable, like I can take my shoes off, that's when I work the best.”

Clark will soon open a string of arena dates for the Foo Fighters, and then he'll be supporting *The Story of Sonny Boy Slim* with a headline run that currently stretches into April 2016. Before hitting the road, he sat down with *Premier Guitar* to dissect his playing on the new album and trace the evolution of his early years woodshedding with his friend Eve Monsees. He also discussed his beloved Epiphone Casinos and Fender Vibro-Kings, along with other guitars and gear, while positing the notion that he “wasn't born in the right decade.”



Though Clark says he's a better player with a flatpick, his early influences in Austin were fellow Texan Jimmie Vaughan and the legendary Chicago bluesman Hubert Sumlin, both of whom were "all fingers."

**It's widely thought that blues players don't spend a lot of time practicing technique or studying theory—it's all feel. What are your practice habits?**

Well, yeah, I could study up on that more. I don't practice as much as I could, to be honest. When I'm up onstage playing and I hit a bum note—you know, it happens—I'll think to myself, "You see? You've got to practice a bit more before you get up in front of all these people." It's a struggle sometimes. No matter how much practice you get in, you could always do more.

**Is it true that your first guitar was an Ibanez RX20 you got after seeing Michael Jackson?**

That's right. That was great.

**Did you want to be a shredder like Jennifer Batten, who was playing with him at the time?**

I did, I did. But as soon as I got my guitar and I couldn't play the solo to "Beat It," I thought, "That's it. I might just need to move on to something else." [Laughs.] Sure, I wanted to be a shredder after I saw that concert, but I also loved clean, soul guitar tones. I remember when I asked my parents for a guitar, I said, "You know, so I can get that muted kind of sound." I wanted a "mute guitar"—I didn't know what things were called. I didn't understand what a hollowbody was or a semi-hollow or a 335 or anything like that. I just wanted to do cool, soulful hammer-ons, things like that.

**When you were a kid, you formed an incredible friendship with a girl named Eve Monsees. You two would spend hours in her garage playing the guitar. What kind of things did you jam on?**

We would jam on 12-bar blues, basically. We would go back and forth between major and minor keys. We thought we were really advanced for our age. [Laughs.] We were into Jimmy Reed and guys like that. And there'd be rock 'n' roll stuff—the Ramones. But most

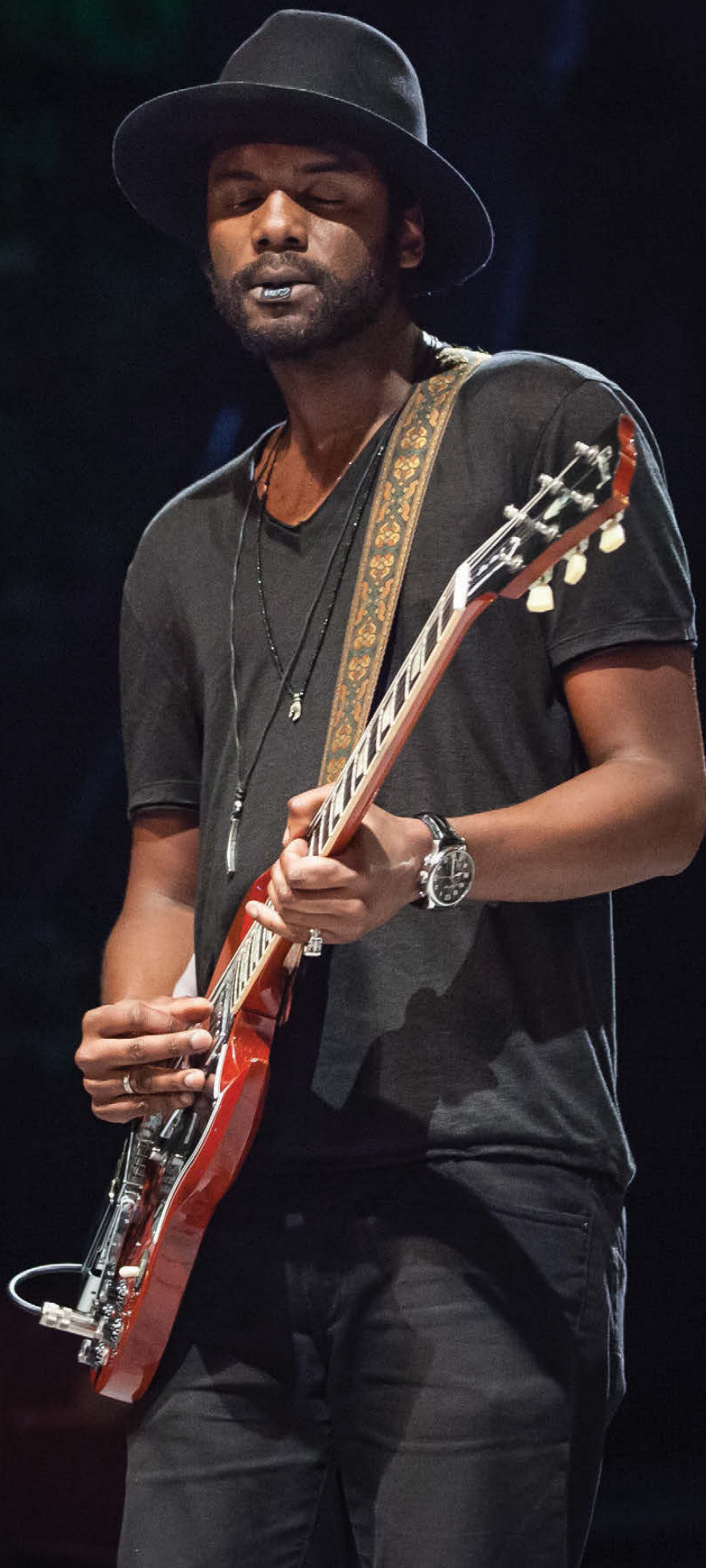
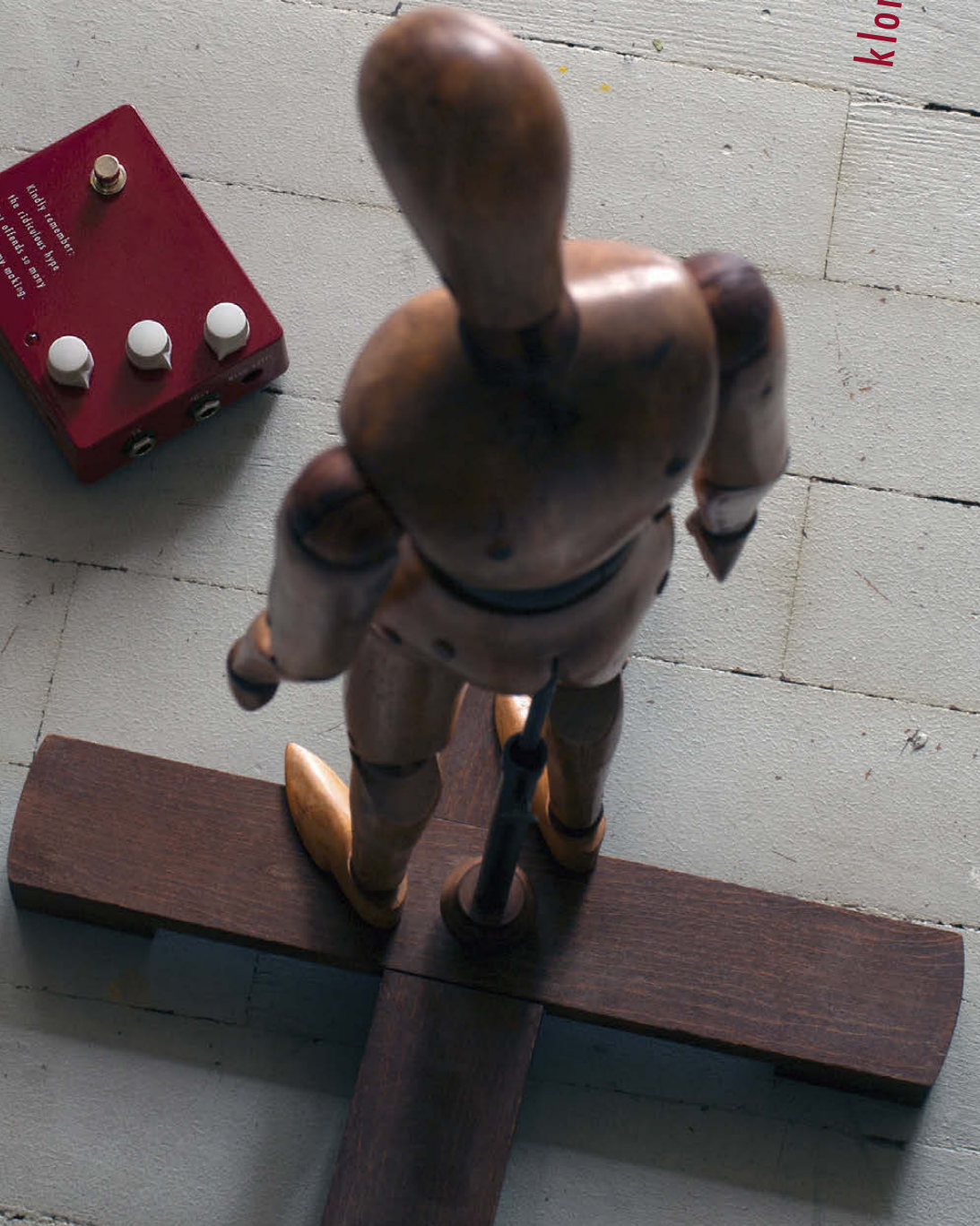


Photo by Joe Russo



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## GARY CLARK JR.'S GEAR

### GUITARS

- Epiphone Casino (red with Bigsby)
  - Epiphone Gary Clark Jr. Blak & Blu Casino (prototype)
- Epiphone Casino (burled red, bought in the U.K.)
- 1961 Gibson Les Paul/SG Standard (gift from the Foo Fighters' Pat Smear)
  - Gibson ES-330
  - Gibson ES-125
- 2000 Fender Stratocaster
- 1970s Fender Telecaster
  - Fano JM6

### AMPS

- Fender Vibro-King 20th Anniversary Edition combo
  - Fender Vibro-King head with matching 2x12 cabinet
  - Fender Princeton

### EFFECTS

- Fulltone Octafuzz
- Hermida Audio Zendrive
- TC Electronic PolyTune
- Strymon Flint Tremolo & Reverb
- Dunlop GCB95 Cry Baby Wah
- Fulltone A/B box (runs two amps)

### STRINGS & PICKS

- D'Addario Custom Nickel .011-.049 (lower-tuned guitars use .011-.052)
- Dunlop Poly Medium picks

Known for playing Epiphone Casinos onstage, Gary Clark Jr. now has his own signature model, dubbed the Blak & Blu Casino.

of the time, it was just us hanging around and playing pentatonic stuff, learning how to play solos over 12-bar blues.

I remember Eve was into listening to these two stations on the radio—91.7 and 90.5. One deejay, Larry Monroe, hosted a blues hour. That's how we discovered guys like T-Bone Walker and Albert Collins, Jimmy Reed, and Muddy Waters. Larry really educated us. If I missed a show, Eve would record it off the radio and give me a tape. "You didn't hear this. Check it out." I was so into it.

Then I started going to blues jams. I met these older guys who would sort of school me about where the music came from. My first blues album was Stevie Ray Vaughan's *Texas Flood*—my neighbor Fred Wheeler gave it to me. After hearing Stevie Ray, I was like, "Oh, shit. What is *this*?" It was eye-opening. From there, I started learning about Albert King, and I just kind of went backwards.

**Eddie Van Halen has talked about learning Cream's version of "Spoonful"**

**note for note. Did you ever do stuff like that?**

I did, sure. I went straight for Hendrix and "Purple Haze," and Stevie Ray's version of "Little Wing." Those are the ones that I tried to get note for note. All I would think about at school was, "Man, I can't wait to get home and figure out that second verse."

**Is that how you learned to build a solo?**

A lot of it was watching and listening. I have to give it up to guitarists like Alan



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Gary Clark Jr. credits his rhythm guitarist Eric Zapata (left) for introducing him to his amp of choice, the Fender Vibro-King.

Haynes, Derek O'Brien, Johnny Moeller, and Mike Keller. Those are the guys in Austin I would see here and there. Just their improvisation and how dynamic they would be—you give them 24 bars or a 36-bar solo and just listen to them build. You go from “Oh, that was really cool” to “Wow, my mind was just blown by this.” Those are the guys I listened to and tried to figure out what they were doing.

**In Austin you got to jam with guitarists like Jimmie Vaughan and Hubert Sumlin. Were you watching their fingers as they played?**

Oh, I was *definitely* watching their fingers. They have their own identity when they pick up a guitar. You close your eyes and listen, and you go, “That’s Jimmie Vaughan. That’s Hubert Sumlin. That’s Buddy Guy right there.” It made me think. Instead of trying to play



## YOUTUBE IT

Gary Clark Jr. gets into an especially nasty soloing mood during this extended version of “Grinder” at the 2015 Toronto Jazz Festival.

**YouTube search term:** Gary Clark Jr – Grinder – Live at Toronto Jazz Festival 2015

Freddie King note for note or whatever, I could make it my own and figure out what works for me. What’s the best way to play the instrument to my ability? I really got that just from being with them, because that’s what they were doing.

**How did that affect your picking style? Are you a hard or soft picker?**

Well, they weren’t using picks at the time. I would see Jimmie Vaughan, and he was all fingers. Hubert Sumlin was all fingers. So I was playing with these guys who didn’t use picks. I liked the way they would get this nasally tone with their fingers. I was

really into that for a while, but then I also realized I was better off with a pick. I would say I’m now somewhat of an obnoxiously hard picker. [*Laughs.*] No finesse about it. I’m pretty ruthless when it comes to playing with a pick.

**You mentioned Hendrix and Stevie Ray—both were big Strat players. I know you use a Strat sometimes, mostly for songs that are more soul and R&B.**

Yeah, definitely. For that kind of stuff I really like the Strat. I like to turn the volume down and really get that thin clean tone, and then for solos I’ll crank it

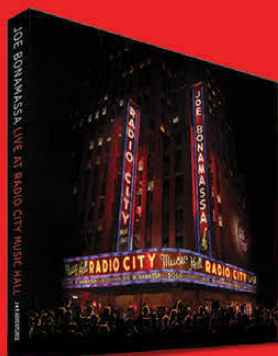
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Gary Clark Jr. says he's a man of symmetry when it comes to guitars. No single-cutaways for this slinger, but an SG makes the grade.

up and let the bridge pickup wail a little bit. I play near the bridge and get that twangy, nasal sound.

**The Casino has been your main guitar. What was it about the Casino that first appealed to you?**

I could finally get that B.B. King tone I was looking for. I love his sound and T-Bone Walker's sound. I was really into those guys at the time I picked up the Casino. It was just a different sound that I couldn't really get out of a Strat. I also liked that I could play it acoustically and still get a lot of sound out of it without plugging in. You can play a Casino anywhere, and it gives you something back.

**Did single-cut guitars like Les Pauls ever appeal to you?**

No, honestly. Visually, they just didn't look right to me. They look great on some guys, but not on me. Aesthetically, I like things to be even. I have this weird thing where if it's a little bit off, it makes me uncomfortable. That's just me—the way my mind works.

**As a teenager, how did you start to educate yourself about different combinations of amps and effects?**

That really comes from hanging out with [Eric "King"] Zapata [rhythm guitarist in Clark's band]. I have to give it up to him on tone and putting the combos together. He sold me my first tube amp, my Fender Vibro-King. I'd show up to play with guys like Alan Haynes, and I'd have my solid-state Crate amp. No disrespect to Crate, but I'd always look back to my amp and think, "How come mine doesn't sound like his Vibro-King or his Super?" I just didn't know. Zapata was the one who really helped me with the amps and combos. I tried Marshalls, but that wasn't the tone I was going for. I liked the Fenders.

**You play an Epiphone Riviera at home but not live. For you, what are the sonic and playability differences between a Riviera and a Casino?**



Photo by Joe Russo



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"I like to turn the volume down and really get that thin clean tone," says Clark about Strats. "And then for solos I'll crank it up and let the bridge pickup wail a little bit."

To me, the Riviera, for lack of a better word, has more of a shimmery tone to it. It sounds more like water and raindrops to me. The Casino is a little bit rounder, bolder, and then it gets all gnarly and screaming when you push it back to the bridge pickup. I like both of them for different reasons. I would play the Riviera a lot more, but it's heavy, man. It's not a light guitar.

**What about your '61 Gibson Les Paul/SG Standard? Are you using that on the new album?**

Oh, yeah. That's got the humbuckers. I use that guitar when I want lots of attitude. It's an aggressive guitar. It's on "The Healing" and "Grinder."

**Walk me through that piercing, stinging solo sound on "The Healing." It's sort of a classic SRV sound with a little added Gary bite.**

“ I didn't think I could get it any wilder, any ruder, so that was the one we stuck on the record.”

I used the SG on that, and I put it through a Vibro-King head, out to the cabinets. Everything—bass, mid, treble—everything right at the middle on 5. There's a little bit of reverb, a Strymon on the '60s reverb setting, and a little bit of delay. There's some Octafuzz, too, but I don't know if I needed it because the amp was breaking up really nice.

**The SG sound on "Grinder" is even bigger and more unhinged, especially in the solo—it's barely controlled feedback.** Definitely, man. For that, I just thumped on the wah and left it all the way open, which is quite rude. It's not nice at all,

very unapologetic. It's the same combo as "The Healing," but I'm all the way up.

**Did you work the "Grinder" solo out, or was it all one spontaneous pass?**

I originally did a solo that was a little bit nicer. [Laughs.] We were just sitting on it and I was like, "Let me get one more. Let me just go in here and see what happens." We just turned it up and I went through it again. I didn't think I could get it any wilder, any ruder, so that was the one we stuck on the record.

**I love your clean rhythm playing on songs like "Cold Blooded" and**



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**“Star”—so Curtis Mayfield. What’s your recipe for that approach? Is it all in the hand, or is it the guitar and the settings?**

It’s a combination of everything. I played the rhythm stuff for those songs on the Strat—very clean, no crazy effects, just reverb and a little bit of wah. I really just wanted to explore that clean thing. I mean I grew up on soul and Motown and stuff like that. That Strat thin tone really resonated with me. I just went in there and worked it out. When I listen to some of these songs and sounds, I think that maybe I wasn’t born in the right decade.

**How’s that?**

When I listen to them, I picture Marvin [Gaye] in the ’70s. He’s as much of my roots as Jimmy Reed. Curtis Mayfield, too. I think that’s more apparent on this record. I feel like my musical style is a little bit throwback, but I’m trying to move it forward and bridge some sort of a gap. You know, I love Dr. Dre and RZA, too.

**Do you record more of the soulful songs at a particular time of day? Like, “Okay, at 4 o’clock in the afternoon I’m in a rude mood for soloing. At 10 o’clock I’m more relaxed and it’s time to do some mellow rhythm work.”**

It’s actually the reverse. I’d say before midnight is when the rhythm stuff happens. I try to have some discipline, get into a different mindset. I’ll think, “How would Jimmie Vaughan play this?” It’s like, “How chill can I possibly be?” You just vibe out. After midnight, that’s when you’re prone to try out new things. That’s when you get a “Grinder” solo.

**Recently, you came out with your signature Epiphone guitar, the Blak & Blu Casino. Where are we hearing that on the record?**

That’s on “The Healing,” along with the SG. The little bit of vibrato is the Casino. You hear it on “Star” a little bit, too. You can barely hear it, but that fuzzed-out, sitar-y little thing— that’s the Casino.

**Do you have a different attitude when you play a guitar that bears your name versus another guitar you’ve had for years?**

That’s a good question. I definitely *look* at it more. [Laughs.] I’m like, “Wow, I can’t believe this actually happened.” While I’m playing it, I’ll be sitting and I’ll have it on my lap, and then I’ll just put it on my knees and look at it. “Man, that’s pretty cool.” It’s a different feeling, for sure. I’m proud of it.

**Where do you see yourself in 10 years as a guitarist?**

I’d like to have a better understanding of how chords and notes really work together because, quite honestly, I don’t have much of a music education other than, “Put your finger here. This makes this chord,” or whatever. I’ve pretty much just figured out different scales and tunings. I feel like I’ve only really tapped into a small bank of what guitar is really capable of. 🎸



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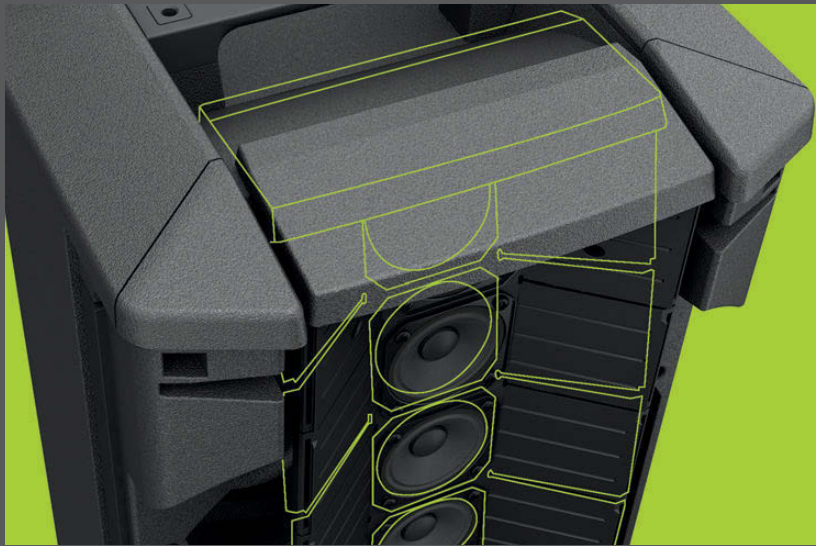


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# Modelers Versus Traditional Rigs

BY PETER THORN

Got virtual amplification?

**M**any guitarists have added or considered adding a modeling processor to replace some or all of their traditional amp/effects rig components. This month, I'll try to help answer a question you've probably asked yourself: Is modeling for me?

## What's Out There?

The assortment of modeling devices on the market is varied in both features and price. There are rackmount units, such as the Fractal Audio Axe-Fx II and Kemper Profiler PowerRack, stand-alone desktop-style devices like the Boss GT-001, and floorboard units, including the Line 6 Helix and Atomic AmpliFire. Modeling devices have come a long way and sound quality today is generally exceptionally high. Tones that are virtually indistinguishable from real amps—especially when blended in a mix—are now the norm. With portability, convenience, flexibility, and programmability on their side, one might wonder why *all* guitarists haven't switched from traditional rigs to modeling units.

## They Aren't for Everyone

I'm often asked, "Should I sell my amp and pedalboard rig and go with a modeler?" It's a difficult question to answer because it depends on a number of factors. One huge factor is that it's just simply *cool* to play a tube amp! They're loud, they're fun, and they have glowing little bottles in them. Even the folks that make modelers can't deny this since they're making devices that essentially emulate and celebrate the tube amps we all know and love. If you *are* considering a modeling rig, you should ask yourself the following two questions that go beyond the undeniable "cool" factor of a killer tube amp.

*How do you like to listen to your guitar sound?* Whether playing gigs or jamming at home, do you generally use an amp placed close to you in traditional fashion, so you can hear the sound from the speaker(s) directly? Or, do you place your cabinet

offstage or isolate it somewhere, mike it, and listen through in-ear monitors, headphones, or speaker-style monitors? If it's the latter, transitioning to a modeler can be relatively painless. If you are used to hearing an amp "in the room," going to a modeling rig can be a difficult transition. This is because guitar amps interact with the physical space they are in, and the resulting sound you hear is the sum of the amp, cab, *and* environment. Many folks run their modeling gear into full-range, flat-response monitor speakers (aka FRFR rigs) that are placed onstage or close to them in an attempt to recreate the amp-in-the-room feel, but in my opinion, it's a considerably different experience from having a cranked 4x12 behind you and flapping your pant legs.

*Are you a plug-and-play guitarist who values simplicity and purity, or one who embraces more complex features?* If you're the type of player that prizes simple single- or dual-channel tube amps, and you only use a few effect pedals or none at all, modelers can be quite daunting. Even the simplest modeling units generally have lots of features and menus that you need to scroll through to get to various functions. Yes, modelers' ergonomics and user interfaces have gotten better over the years, but even so, modelers just aren't as simple to operate as traditional rigs. The million-dollar question: Are you ready for a learning curve, or are you happiest when you're just playing and *not* tweaking gear? Some players relish the process of tweaking tones to perfection and getting deep into programmability. If you lean this way, a modeling rig could be absolutely right for you. But if you can get all the tones you crave out of a simple amp and minimal FX rig, stick with amps and pedals!


## A Hybrid Approach

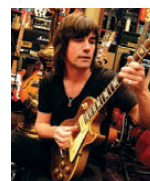
The Fractal Audio FX8 and the Line 6 Helix are two very powerful floorboard-type of boxes that have recently hit the market. The Helix boasts amp and cabinet modeling (fully bypassable) as well as many effects,



whereas the FX8 is all about high-quality effects only. Both of these boxes are designed to integrate beautifully with traditional amp-based rigs by allowing guitarists to run effects both in front of their amps and in their effects loop at the same time. They both feature relay switches that are programmable per patch, which permits guitarists to switch amp functions and channels while simultaneously changing effects with the push of a button. This is the kind of total programmability that used to require a refrigerator-sized rack full of gear and a guy named Bob Bradshaw to wire it all together.

These two examples reflect how manufacturers understand that many guitarists don't want to abandon their amp-based rigs. This hybrid-based approach combines the versatility and programmability that modeling offers with the classic, raw power and tone of the venerable tube amp. I predict we'll be seeing more and more players using this approach extensively both onstage and in the studio.

We have *so* many options in this golden age of guitar gear. That's why it's crucial you identify the type of person *and* guitarist you are before deciding what equipment to buy. You'll avoid headaches down the road if you ask yourself a few simple questions and determine what's important to you. Until next month, I wish you great tone! 



## PETER THORN

is an L.A.-based guitarist who has toured with Chris Cornell, Melissa Etheridge, Tsuyoshi Nagabuchi, and many others. He released a solo album, *Guitar Nerd*, in 2011. Read more at [peterthorn.com](http://peterthorn.com).





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~ **Steve Lukather**



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~ **Guthrie Trapp**  
(Garth Brooks, Trisha Yearwood, Alison Krauss)



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~ **Daryl Stuermer**  
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~ **Luther Dickinson**  
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~ **G.E. Smith**  
(Bob Dylan, Mick Jagger)

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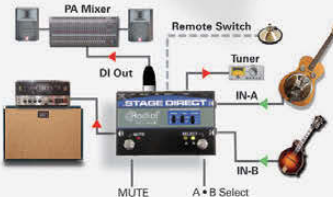
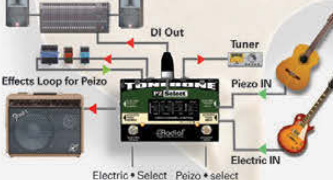
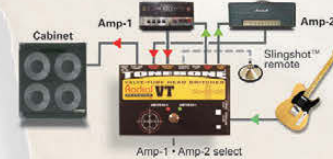
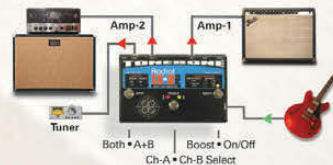
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# OUT OF THIN AIR

WITH THE BOOK OF SOULS, IRON MAIDEN'S 18-STRING GUITAR ORCHESTRA FINDS MAGIC IN THE MOMENT, AS JANICK GERS, DAVE MURRAY, AND ADRIAN SMITH EXPLORE THE "UNKNOWN KNOWN."

BY JOE BOSSO





**A**sking Iron Maiden guitarists Adrian Smith, Dave Murray, and Janick Gers to describe the differences in their playing styles creates something of a Rashomon effect, with each axeman offering a unique and sometimes contrarian view: “I think you can tell us apart very easily,” says Smith. “Dave and Janick’s styles are similar to each other, but they’re different from mine. They both have a strong Ritchie Blackmore influence. Dave plays more legato, whereas I do more muted stuff.”

“Personally, I like to try to be melodic but with a little fire and energy,” says Murray. “I think Janick’s the same actually—great melodies and spirit. Adrian is very methodical. He tends to work out some of his stuff, but he always sounds very spontaneous.”

Gers, for his part, sees Murray as the most melodic of the Maiden axe team. “Dave is very smooth—very rock ‘n’ roll but with a beautiful tone,” he notes. As for Smith, Gers says, “He’s very rhythmic. Even when he’s soloing, you hear a certain kind of rhythm that’s different from what Dave and I do.” And for a self-assessment, he lets out a good-natured laugh and says, “I’m more of a ragged kind of player, rough around the edges but with a bit of a gymnastic edge.”

A fair amount of Maiden purists scoffed when the band expanded to the three-guitarist team of Murray, Smith, and Gers in 1999, fearing that the classic twin-axe interplay that all but defined the New Wave of British Heavy Metal sound in the early ‘80s would be lost in an interminable sea of noodling one-upmanship. (Gers had replaced Smith after he left the group in 1990; when Smith returned to the fold, Gers stayed on.) But on a series of bracing releases—2000’s *Brave New World*, 2003’s *Dance of Death*, *A Matter of Life and Death* from 2006 and *The Final Frontier* from 2010—the trio pooled their individual strengths to form a potent metal guitar orchestra.

“I imagine you’d probably get three guitarists in other bands and it just wouldn’t work,” Murray says. “There’d be a lot of overindulgence and the songs would get lost. Somehow, we sidestep all of that. I think it’s like a bit of magic.” Smith agrees: “For the most part, our songs are quite long and maybe a bit indulgent anyway. There’s plenty of space for us to do our own thing and express ourselves without our egos getting in the way.”

Indulgence seems to be the very idea behind the recently released *The Book of Souls*: It’s the band’s first double record (clocking in at an ADD-busting 92 minutes), and all but four of its 11 tracks are nearly six minutes long—three, in fact, break the 10-minute barrier, with the album closer, singer Bruce Dickinson’s majestic “Empire of the Clouds,” about the 1930 R101 airship crash, ranking as the group’s longest cut ever at just over 18 minutes.

The elongated arrangements give the guitar team ample room to shine, but what’s remarkable about their performances—take the Thin Lizzy-sounding “Speed of Light” or the spitfire disc-opener “If Eternity Should Fail”—is the way they never seem to repeat a lick. There are no half-gestures or rote moves, and at times the fretwork even comes close to transcending the album’s material—no small feat considering this could be the band’s strongest set of songs in over a decade.

*Premier Guitar* sat down with Smith, Murray, and Gers to talk about the guitars and gear they used on the new album, how the blues figures into their playing lexicon, what it’s like to tackle an 18-minute bear of a song, and what steps they take to stay out of each other’s tonal space.

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**You’re all accomplished players, but do you spend any time at home woodshedding, working on your chops?**

**Smith:** I definitely practice, especially before an album or a tour. I can’t do what some people do—you hear about Yngwie Malmsteen practicing for eight

hours a day. That’s a long time to do just one thing. When I get time, I try to learn some new things and stay fresh. One thing I like to do is work new techniques into old material. Sometimes [bassist] Steve [Harris] will say to me, “Why are you changing that? What you had before

is great, it’s melodic—it’s what people want to hear.” But you know, you have to try sometimes, especially with stuff you’ve played so much.

**Murray:** I think it’s like any profession. If you were an athlete, you’d exercise and warm up, and I think it’s the same with guitarists. If you just played guitar from tour to tour, it’d take a long time to catch up. But I like playing just for the fun of it—it doesn’t feel like work to me. When I’m at home, if I’m watching a movie or something, I’ll have a guitar on my lap, something with really heavy strings that’s hard to play, like an acoustic. That’s a good way of keeping my fingers limber.

**Gers:** I don’t consider playing *practice*—I’m just playing. I’ve got guitars all over the house. They’re all tuned differently, so wherever I’m walking I can just pick one up—standard tuning or whatever—and I’ll just play it acoustically. But you know, as far as practicing goes, I think you’ve got to experience life. You’ve got to experience everything in life, all the emotions, and put them into your guitar playing. If you sit in your room practicing all day, that certainly won’t happen.

**So how do you go about channeling your emotions into your guitar?**

**Gers:** You conjure up images and feelings. For the song “The Book of Souls,” for example, I thought back to being in Mexico and seeing the Pyramids of the Sun and Moon, just outside of Mexico City. All my songs and ideas will come from what I see or experience... a movie or some spiritual idea or whatever, somewhere I’ve been.

**Do you ever come up with guitar parts you think are great, but they’re not quite “Iron Maiden” and don’t make the cut?**

**Murray:** Absolutely. It’s happened a few times. Obviously, the band has an identity and a sound, so sometimes it’s “Yeah, that’s great, but it’s not right.” I’ve got a few things that never quite made it because they weren’t Maiden. I sit at home and put on a drum loop, and I’ll get an idea and stick it on my iPhone. Sometimes the idea fits, sometimes not.



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Maiden's mighty axemen: Adrian Smith, Dave Murray, and Janick Gers. "For some reason, the way we play makes the actual tones of each guitar completely different," says Murray. "You can hear Janick's tone, Adrian's tone, and my tone, and you know who's who."



## ADRIAN SMITH'S GEAR

### GUITARS

- Jackson Adrian Smith Signature San Dimas DKs
- Gibson goldtop Les Paul
- Jackson King V

### AMPS

- Marshall JVM410H
- Blackstar Series One 104EL34, 1046J6, and H-T5

### EFFECTS

- Boss DD-3 Digital Delay
- Boss CH-1 Super Chorus
- Boss CS-3 Compression Sustainer
- Ibanez TS808 Tube Screamer
- DigiTech Eric Clapton Crossroads
- Dunlop Cry Baby Wah
- Duesenberg Channel 2



## DAVE MURRAY'S GEAR

### GUITARS

- Fender Dave Murray signature Stratocaster
- 1960s Fender Telecaster
- 1970 Fender Stratocaster (previously owned by Jethro Tull's Martin Barre)
- Gibson Les Paul Classic 1960 Reissue
- Gibson Les Paul Axxess Standard with Floyd Rose
- Gibson Memphis ES-Les Paul

### AMPS

- Victory amps
- Fender Super-Sonic 100-watt 2x12 combo

### EFFECTS

- MXR Uni-Vibe Chorus
- MXR Distortion +
- TC Electronic Flashback Delay
- TC Electronic Corona Chorus
- Dunlop Cry Baby Wah
- Dunlop JD-4S Rotovibe
- Wampler Clarksdale Delta Overdrive
- Phil Hilborne Fat Treble Booster



For the song "The Book of Souls," I thought back to being in Mexico and seeing the Moon and Sun Pyramids, just outside of Mexico City."  
—Janick Gers



## JANICK GERS' GEAR

### GUITARS

- Fender Stratocasters, including a black Strat that was a gift from Deep Purple's Ian Gillan

### AMPS

- Marshall JMP-1 preamp
- Marshall 9200 power amp

### EFFECTS

- Marshall JFX-1 multi-effector



With Maiden, the quality of music is at such a high level that you have to reach high all the time. Anything below par isn't really going to make it.

**Gers:** I think whatever we do sounds like us. Sometimes you'll bring stuff in that doesn't quite fit as well as something else, so you'll go on to another idea. I don't think I've ever brought something in that people said wasn't Iron Maiden. Perhaps if it was totally blues it might not be Iron Maiden, but you could probably change it and it would work. What I love about Maiden is that there's no restrictions. On this album, there's so many different facets of music. I think "Empire of the Clouds" is almost like a Broadway musical. And you've got "The Red and the Black," which has lots of classical connotations and Celtic riffs. "The Book of Souls" has an almost Eastern vibe to it.

**Speaking of blues, it's been said that the NWOBHM bands did away with blues structures. Do you agree with that notion? And if so, how do you fit bluesy guitar parts within arrangements and rhythms that aren't bluesy?**

**Smith:** Actually, my influences are very blues-rock—Pat Travers, Johnny Winter. I found it easy to pick up on what they were doing, whereas someone like Ritchie Blackmore, whom I love—you try to play "Highway Star" when you're a kid, and it's impossible. So you start off with the Stones, the Beatles, and then you go up to Johnny Winter.

**Murray:** I love the blues—Albert King, Albert Collins, Buddy Guy, B.B. King. With the sort of rhythmic things we do, you'd think it would be an impossible task to blend a little blues in, but you can do it. At times you kind of thrash around, but if you try to play nice melodic notes, you can cross over. If you listen to some of our stuff, obviously there's heavy rock and metal, but there's also classical melodies, jazz, blues—it all fits.

**You've worked with producer Kevin Shirley before. He likes to get things in the can quickly.**

**Murray:** Yeah, I love that about him, actually. I think he's fantastic.

**Smith:** See, I've got mixed feelings. I give Kevin grief every once in a while because of that, working so fast. I've got a couple of amps in the studio, and I'll be messing around and he'll be like, "Come on. Let's do it." I want to see what the amps sound like—I want to be inspired. Kevin is very "plug in and I'll record you."

There's no smoke and mirrors. Quite often I'll play a solo, and he'll say, "That's great. It sounds like you."

Then I'll say, "I don't want to sound like me. I want to sound *better* than me!" We clash a little bit, but I love him. He's a strong personality.

**Back in the day, you'd spend months overdubbing and layering. Is there pressure now to get the**

**parts right the first time?**

**Murray:** No, in fact it's quite the opposite. I'll tell you, I actually love working with Kevin, and I love how fast he works, all the Pro Tools and technology he uses. Back in the day, when you used reel-to-reel, everything took so long—it killed a lot of spontaneity. Now everything's quick and almost on the fly. When we go in and record a track, we're all playing

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together, Bruce is singing, and just like that we've got the foundation done. After that, when we go in to do the overdubs, I'll go into the control room and sit next to Kevin, and we go through each of the songs bit by bit, changing things, playing solos or fixing chords. Kevin is fantastic: "This needs a punch-up. This bit, look at that." And if you mess up, we can move something around and make it work. I'll do three or four solos, and then Kevin will go, "Yeah, I've got enough." So I'll get a cup of tea, come back, and he'll play me what he's put together. Then I'll go home and learn it for the next tour.

**Smith:** We've got three guitarists, so it's hard for everybody to do all that tinkering. If Dave is sitting there doing a solo in 20 minutes, I'm not going to spend five hours working something out. You just can't do that. Normally the first couple of takes are the best. If there's anything I'm really unhappy with, I'll fix it. Maybe I'd have spent more time redoing things in the past, but not now.

“ Sometimes it's fun to let the sound take you somewhere. You spend a morning messing around with effects and you'll probably get an idea for a song out of it.” —Adrian Smith

**Do you have to get in a certain mood to do overdubs? It's a little more scientific than playing in the room with the other guys, right?**

**Murray:** Yeah, it is, but it's not like you're in a lab with a white coat on. I go in, I plug straight in, put on a Uni-Vibe or a Distortion +, maybe a flanger, and then I just feel it out. So no, you don't have to sit down and cross your legs in a lotus position and go, "Ohmmmm." [Laughs.] It was basically, have a couple of cups of coffee, get some adrenaline going, and then go for it.

**Speaking of pedals, Janick, you're not a big fan.**

**Gers:** To me, they compress the guitar. And plus, it always feels a little bit too easy. I'd rather look for melodies and find other ways of making it interesting rather than just pressing a button. I've got no problems with that, although there are certain guitarists who will use pedals as opposed to trying something different. It's just not for me. I'd rather turn the guitar down, let the amp scream, and change the sound that way. Kind of old fashioned, I suppose.



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**Smith:** Yeah, but you still have racks—delays and all those things are in the racks. As for myself, I like to bring in one thing I haven't used before per album. A few albums ago I went mad on the Whammy pedal. This time I brought in an Eric Clapton Crossroads pedal—a few settings on that sounded quite good. Sometimes it's fun to let the sound take you somewhere. You spend a morning messing around with effects and you'll probably get an idea for a song out of it. I know I do.

**Did you use any new amps on the album?**

**Murray:** Yeah. In fact, I started playing through a Fender Super-Sonic 100 2x12—you know, one of those tube amps that sounds absolutely amazing. Colin, my guitar tech, brought in a Victory amp—that was a new thing for me. I used one on the tail end of the album, and it was tremendous—very tubey, very old school.

**Smith:** I chop and change. When I rejoined the band, I was using an ADA with a power amp. Then I switched to



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There's tons of triple-guitar goodness in this Iron Maiden concert from the 2014 Rock am Ring festival in Nuremberg, Germany.

**YouTube search term:** Iron Maiden Live at Rock am Ring 2014 Full uncut show

the Marshall JMP-1s, which Janick and Dave were using. And then I thought I'd do something different and I went back to the Marshall heads. It's a different sound.

**Gers:** I use Marshalls. The one I was using in the studio wasn't a standard Marshall amp—it's been picked around on by Mike Hill and a few other people at Marshall. It's basically got two 100-watt slaves on it, and it's got a front-loaded rack. I'm pretty much straight in there. That way, you've got more control over it, it doesn't thin it out. I like to keep it live sounding and real. Then you can just turn your guitar up and down, whatever you want.

**Dave, you said "tubey" before. Is that you doing the first solo on "Speed of**

**Light"? That's got a big tube vibe.**

**Murray:** I think I do the first solo, and Adrian's playing a lot of the melodies. I'm using the Super-Sonic on that, I think. I have to be honest: I got the album about a month ago, and I've played it several times, so I'm still hearing new things that I don't even remember playing. [Laughs.]

**Adrian, I read you were inspired by Eric Johnson for certain parts on "Speed of Light." Also, you said that you rediscovered the pentatonic scale, which you use in the song.**

**Smith:** Yeah, years ago I went through a phase where I was trying to figure out Eric Johnson, but I couldn't even get close. He's brilliant. Trying to say what

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I do sounds like Eric Johnson is a bit presumptuous, I think. Joe Bonamassa's another one—the stuff that comes out of him, those pentatonic runs, is just incredible.

**Janick, let me ask you about “Shadows of the Valley,” which you wrote with Steve Harris. There’s some beautiful guitar harmony parts toward the end. Is there a specific way you go about recording those parts?**

**Gers:** When it comes to three-part harmonies, if Adrian is doing the song, he might put them all down himself. If it's one of mine, I might do all the harmonies myself. Then later on when we come to do the song live, we work out the harmonies between the three of us. It's whatever's the simplest, whatever sounds best, really. Other times we might do a three-part harmony with all of us. You never quite know what's going on. It's like the Stones: When you listen to what Keith is doing and what Ronnie's

doing, it doesn't really matter about the individual parts, because it sounds brilliant. I love that when they ask Ronnie who's the best guitar player, and he says, “I am.” Then they go and ask Keith and he says, “I bet Ronnie said he is. Well, he's wrong. No one can beat us when we're together.” And Keith's right.

**Adrian, the riff to “Death or Glory” is great. How do you know when a riff is just right?**

**Smith:** Yeah, it's interesting. There's an intro and then a second main riff—I changed that a bit and made it double-time, because originally it was kind of Thin Lizzy. I made it sound more Maiden. I was just trying to write something that sounded immediate but with a big chorus.

**Let's talk about “Empire of the Clouds.” Guitar-wise, how did you guys wrap your heads around an 18-minute song?**

**Murray:** When we went into the studio, Bruce was playing the melodies on the piano, and we started learning it, just by listening to him. He'd say, “Oh, yeah, I've got an idea for this bit and that bit.” So basically, when we sat down for the very first bit, I just wrote down a couple of chords and we jammed. It went from there—Bruce playing and us jamming live. We recorded it, because you should always document everything and keep it. You never know when you'll have a keeper bit. We did the song in sections because, you know, it's 18 minutes long! *[Laughs.]*

**Smith:** We did out parts in bits, and every so often Kevin and Bruce would say, “No, that's too bluesy. Try it a bit more classical.” It evolved and turned into something pretty great. It was good fun to do.

**When you first heard it, did you immediately get an idea of which sounds to go for?**

**Murray:** I did. I had a Les Paul plugged straight into the amp. I had the guitar

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set on the neck pickup and put the volume down low—it just seemed to fit. And I think the same with the other guys; we were just playing with the guitars kind of turned down quietly, and we felt our way through. As the song built, we increased the volume on the guitars, and eventually we got to the chord-heavy sequences. I'd say it was spontaneous, and that can make it hard to analyze.

“If you're playing something in the studio, it's not something you've necessarily spent a year working out. It just happened in the moment. But I think that's where the magic is: It's something that just comes out of thin air.”  
—Dave Murray

Before we start the tour for next year, I'll have to sit down and learn those solos. I'll have to relearn all these songs myself. If you're playing something in the studio, it's not something you've necessarily spent a year working out. It just happened in the moment. But I think that's where the magic is: It's something that just comes out of thin air.

**Dave, you've mentioned playing a Les Paul. I assume you played Strats, as well.**

**Murray:** Oh, yes, I've got those. In fact, I used my signature model on every song. I'd swap guitars, play some melodies and rhythms on a Strat, and then maybe play something else on a Les Paul. I did use a Les Paul with a Floyd Rose on quite a lot of the songs. The signature Strat is a really nice, very playable guitar. A lot of guitars you get, they're not playable. But they've made this one very comfortable to play, so I'm really pleased with that.

**Janick, what about you?**

**Gers:** There were three or four Strats—I've got a couple of custom Strats Fender built for me—and I was using them at different times. I couldn't exactly tell you which ones, to be honest, it's whatever felt right at the time.

**And Adrian, you're playing your signature Jacksons and a goldtop Les Paul?**

**Smith:** That's right, but I'll tell you, the biggest thing, no matter which guitars we're playing, is to pay attention to intonation. You get three guitarists on the same track, and you can get a bit of a sour sound.

**I would think that might really come into play when you do harmony parts.**

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**Smith:** It's not a problem with lead parts because you have vibrato, and because we have different vibrato styles, you can just blend everything in. It's more with chords. If we're all thrashing on the same chord in the same neck positions, you're going to get intonation problems. I usually try to work it out in the writing, so we're actually playing different things.

With harmonies, I'll sometimes put a third in there, but that can sound a bit bland. Usually I'll put in a low octave to beef up the bottom end. You've got three guitars but it's not really a three-part harmony. Sometimes you double a part for a Celtic sound—it can sound like bagpipes.

**Dave and Janick, because you both play Strats so much, how do you avoid occupying the same tonal space?**

**Murray:** We put “No Entry” signs up. [Laughs.]

**Gers:** I think we have different sounds. Adrian has a much more compressed sound, Dave a little less so, and when I

put my guitar in the middle, the tonal characteristics seem to work to make the band sound bigger. That's how it feels to me. I constantly change the pickup selection and move the volume around, which can be troublesome when you're trying to overdub. I'm never quite sure where it's sitting, so I play it by ear. I might turn the guitar down to 2 or 3 at some point, and then whack it back up. I'm constantly changing things.

**Murray:** For some reason, the way we play makes the actual tones of each guitar completely different. I mean, you can hear Janick's tone, Adrian's tone, and my tone, and you know who's who. All the sounds are different, but for some reason that's hard to understand, they just fuse together. That's the unknown known, where something just happens and you can't analyze it.

**When you're playing live, do you watch one another's hands? “He's playing hard, so I'll play softly”—that kind of thing?**

**Murray:** It's not a case of watching each other, it's more about the dynamics of the song or section. So maybe one of the guys is playing a little heavy, but then the other guy might be playing something lighter or sweeter, and that adds a cool dynamic. Basically, we could be playing one section of a song, but we'll be playing different parts and they all work together. We could play three-part harmonies if we want, or we could play one rhythm and two kinds of riffy things—it's limitless, really.

**Gers:** The trick is to make the guitars sound like *one* powerful sound. We're not trying to stick out. You ask, “Well, what did you do on this song or that?” Listen to it—you can hear it. Without one of those guitars in there, it won't sound like it does.

**Smith:** I tend to be precise. It's very easy to cheat onstage—you do windmills and whatever. Yeah, you watch what the other guys are doing, and you're listening. Most of the time it works without a whole lot of effort. 🐼

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## (Scale) Length Matters

BY MARK DALTON

It's fascinating how much a fraction-of-an-inch difference in scale length can affect an acoustic guitar's tone.

Much has been written about scale length and how it relates to playability, but it seems that less is said about how *tone* relates to scale. If you're considering having a custom guitar built, it would behoove you to spend some time with different scale lengths to determine which one is a good fit for you. It's an often-overlooked variable that can make all the difference timbrally. At Huss & Dalton, we offer three different scale lengths for our standard models, so for this month's column, I'll cover each and speak a bit about both playability and tonal differences.

### 25.4"

Most builders offer something featuring this length and will often refer to it as "long scale." It's usually found on guitars with necks that join the body at the 14th fret, such as dreadnoughts and OMs. Long scale is widely thought of as the scale of choice for both flatpickers and modern fingerstyle players. That's pretty remarkable, given these two camps rarely agree on much else.

Long-scale instruments generally provide greater sustain than those with a shorter scale and tend to be more balanced in nature. This particular scale length also lends itself to greater headroom in its tone. (By headroom, I'm referring to the point at which an acoustic guitar's tone starts to break up when played hard.) It's our most popular scale length, and I think that's due in part to flatpickers liking the headroom and fingerstyle players loving the endless sustain. The only downside to long scale is as the scale goes up, the string tension does as well. This is what makes longer-scale guitars a bit harder to play than their shorter-scale cousins.

### 24.9"

This is known in our shop as "short scale"—even though it's not the shortest scale we offer—and 24.9" *tends* to be the standard scale-length for 12-fret guitars,



### Triple-Oh Tip

When referring to a 000 guitar with any builder or guitar store, always specify whether you are talking about a 12-fret 000 (this is what we at H&D call a 000) or a 14-fret OM body with a 24.9" scale, which has also historically been called a 000.

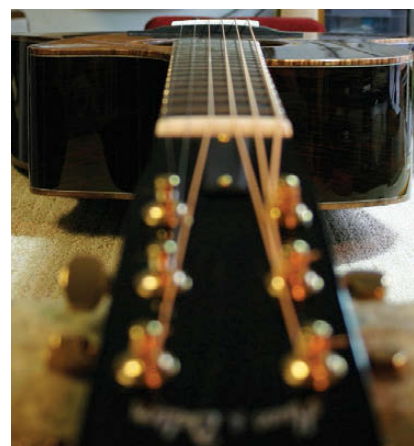
meaning those with necks that join the body at the 12th fret, rather than the 14th.

Occasionally, especially with OM, square-shouldered guitars with 14 frets clear might feature a short scale (sometimes making the OM a 000 model). This scale length is also often paired with a round-shouldered body such as a 0 or 00. While some of this is just tradition, it is also rooted in the 12-fret sound being made more dynamic with the shorter-scale length.


Since scale length helps determine where the bridge will rest in relation to the placement of the "X" brace, scale length really can change a guitar's tone quite a bit. We find that using a short scale will most often make a guitar's tone softer and warmer. The shorter scale also makes the guitar feel easier to play due to less string tension (when compared to a long-scale instrument). The 24.9" scale *does* lessen the headroom aspect a bit, which won't work as well for folks who play hard with a flatpick or with metal fingerpicks.

### 24.75"

This scale length is often referred to as "Gibson" scale because Gibson used it quite a bit in the golden era of flattop guitars. It is our shortest scale, and I find that the guitars with this measurement have the most distinctive tone of the three scale lengths we offer. It tends to produce an almost *nasally* twang and a woodiness that the other lengths can't match. If you like the sound of the blues



masters and archtop players of yesteryear, you will love this tone.

As touched on before, there are some headroom concessions here with a shorter scale, but the playability is like butter, and that magical old-world tone is hard to get with any other scale length. This may also make it the most specific of all lengths, so it won't be for everyone. I find that when I play one of our Crossroads models here at the shop—which features this scale length—I can conjure up the vibe I feel when I hear Norman Blake play and sing. *Nobody* will confuse my playing with Norman's, but it doesn't hurt to dream! 

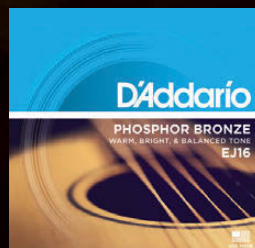


**MARK DALTON** is a founding partner of Huss & Dalton Guitar Company. When not building guitars, Mark and his wife, Kimberly, tend to the draft horses and mules that inhabit their farm in the Piedmont region of Virginia.





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*Dean Fertita and Jack Lawrence—the guitar-and-bass team from Jack White’s other other band—talk about fuzz, their intertwined roles, and the perennial question of how much their boss bosses them around.*

| BY TED DROZDOWSKI |

The Dead Weather (left to right): Dean Fertita, Jack White, Alison Mosshart, and Jack Lawrence.

Few contemporary bands have reached the level of commercial success that the Dead Weather repeatedly achieves with its simple, potent equation: anarchy + chaos + melody = rock ’n’ roll. As the Nashville-based quartet featuring Jack White on drums has progressed from its 2009 debut, *Horehound*, to 2010’s *Sea of Cowards* (both of which debuted in Billboard’s top 10) and now to this year’s *Dodge and Burn*, they’ve amped up that math to create the sonic equivalent of a human cannonball. Songs like “I Feel Love (Every Million Miles)” and “Cop and Go” fly out of the speakers—arms and legs of octave-fattened guitars, buck-wild keyboards, fuzztone bass, and expressionistic power drumming poking out in all directions—then somehow tuck into a neat landing via Alison Mosshart’s seductively ferocious vocals.

At the center of the aural cyclone, usually seen manhandling a big-boned Gretsch White Falcon in his job as melodist, riff master, and sonic insurgent, is Dean Fertita—who can also be seen filling those roles in various balances with Queens of the Stone Age, the Raconteurs (White’s *other* other project), and in his own smart-pop project Hello=Fire. Fertita knows guitars and keyboards like John Henry knew hammers and spikes, and he can—and does—drive them to places that are both unpredictable and a reflection of the Big Rock Handbook, which must be where he got the Jimmy Page tone on *Dodge and Burn*’s ripping “Let Me Through.”

Although he’s lived in Nashville, the eye of White’s ever-expanding Third Man Records hurricane, for three years, Fertita hails from Detroit, home to one of America’s original sonic-anarchist outfits, MC5. And while Fertita’s doesn’t incorporate the twisted jazz elements that MC5 guitarist Wayne Kramer did as he and his ’60s proto-punk

bandmates patrolled the badlands between Chuck Berry, Sun Ra, Dick Dale, and John Coltrane, the same untamed spirit is in his playing.

Piano was Fertita’s first instrument. “From ages six through 12, I studied classical piano, and then the ragtime, Scott Joplin thing,” he says. “But I got a guitar and an AC/DC record when I was 13 and it was ‘game over.’ Studying became all about playing guitar and learning from listening to records.” Motor City radio fed him a steady diet of classic rock, and then in the ’80s punk rock slam-danced into the picture. The ’60s figure into the equation, too: Part of *Dodge and Burn*’s sound is dipped from the reliquary of epic rock mixing. The wild panning, lustrous textures, and bold separation of tracks flash back to late in that decade, when artists like Hendrix, Pink Floyd, and Peter Green’s Fleetwood Mac were inventing the bumper-car trickery of the headphone mix.

Eyeballing Fertita’s current resume—and the multi-band antics of White, Mosshart (who also fronts spiky rockers the Kills), and bassist Jack Lawrence (of the Raconteurs, garage rockers the Greenhorns, etc.)—it’s obvious why it took five years to make *Dodge and Burn*. But along the way subscribers to Third Man Records’ Vault program got sneak peaks at four of the album’s dozen songs.

“Open Up (That’s Enough),” with its spanking guitar chords, and the psychedelic potboiler “Rough Detective” were released as a teaser 7” single in 2013. The next year, “It’s Just Too Bad” and the Fertita-fueled riff machine “Buzzkill(er)” followed. Nonetheless, *Dodge and Burn* is cohesive as an atom—even though, as Fertita explains, it was chiseled from a fat slab of choices, sometimes starting with his own multi-instrumentalist impulses.

Photo by David James Swanson



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## JACK LAWRENCE ON HIS QUEST FOR NEW BASS TONALITIES

"When we were recording *Dodge and Burn*, I was trying to learn to work more with feedback in the studio," explains Dead Weather bassist Jack Lawrence. "I was experimenting with using hollowbody basses and getting closer to the amps. Getting up there and pulling back, getting up there and pulling back—like, bobbing back and forth, trying to get the right spacing between the pickups and the speakers."

Lawrence jokes that this approach "probably looked silly from the control booth"—but the results sound thorny and authoritative—all fuzz, fury, and, at times, even funk. The charter member of the Dead Weather and Raconteurs explains that he's been on a quest for different tones over the past few years, and that's reflected in the gut-punch of his performance on *Dodge and Burn*'s dozen tracks.

"I usually use flatwound strings," he says. "I'm allergic to nickel, which means I can't use nickel-plated roundwounds. With flatwounds you get a little dumber sound. But I wanted a little more aggressive sound in general this time—a sound you could get with roundwounds. So in the studio I cranked the treble up and used smaller speakers and cabinets. The [ProCo] Rat pedal was also key for me getting that roundwound sound with flatwounds—like on 'I Feel Love (Every Million Miles)'. The Jesus Lizard were my favorite band growing up, and I use a Rat because David William Sims used one in that band."

Lawrence affirms Dead Weather guitarist Dean Fertita's observation that their playing's intertwined tonalities are a big component of the band's sound—which is why they focus on each other onstage and in the studio with an intensity usually reserved for bassist-drummer relationships.

"When I use my Electro-Harmonix Bass MicroSynth pedal, Dean and I have to work together as a unit instead of the traditional drums locking in with the bass and the guitar playing melodies on top," Lawrence explains. "That pedal has got a big sound with a sub-octave and square waves. If Dean and I aren't locked in, those frequencies can eat up the guitar. But if it is balanced, it sounds really amazing."

The MicroSynth provides the body of the howling Rottweiler tone on "I Feel Love," as well as "Mile Markers," but Lawrence also used good old-fashioned amp overdrive, turning an Ampeg combo and an original 1965 Fender Bassman wide open. "The Ampeg has reverb and tremolo," he relates. "I didn't use the tremolo in the studio, but a hint of reverb was nice. And on 'Cop and Go,' that's just using an old hollowbody bass and the Fender Bassman cranking. I didn't use a fuzz pedal on the record—that's all just speakers blowing up!"

Lawrence also used a pick more often on *Dodge and Burn*, and it's especially prominent in the propulsive bottom of "I Feel Love (Every Million Miles)." "I don't use a pick that much in the Dead Weather, because not many of our songs have called for it. I like the picky-ness of somebody like [session legend] Carol Kaye, but it's hard to play in any kind of funk style that way. 'Three Dollar Hat' is a good example of me going for a funkier thing. But even if I use my fingers, the pick will be in my hand to switch off mid-song sometimes."

"The tone I get out of the bass amp is also going to guide me," he adds. "If I turn on a pedal, I'm going to play a different riff than if I was just playing right into the amp. But whatever I do, it's mostly decided on the spot when we record at Jack's place. We're all playing together in one room, and sometimes Alison is the only one not in the room with us—her vocals are usually recorded through an amp in a small booth—so everything bleeds together. There's a lot of guitar in the drum mikes, so if we like a take we can't really punch in too much. That's why this record has a lot of feel to it and everything's not perfect."



Photo by Lindsey Best





## JACK LAWRENCE'S GEAR

### BASSES

- Gretsch White Falcon
- 1964 Fender Jazz
- 1966 Fender Precision
- Vintage Hofner 500/2 Club

### AMPS

- 1965 Fender Bassman
- Ampeg B-18

### EFFECTS

- Electro-Harmonix Bass MicroSynth
- ProCo RAT
- Custom DI box

### STRINGS AND PICKS

- LaBella Deep Talkin' flatwound strings  
(.049–.109)
- Fender heavy picks

**Playing in so many stylistically different bands—Queens of the Stone Age, Raconteurs, Dead Weather, Hello=Fire—must be a kid-in-a-candy-store experience.**

It is. I can explore every part of my musical personality. What's great is there's no pressure in any one band to try something that might not be appropriate just because I'm interested in it. There's a place for every sound and idea.

**The bands do seem to have a similar unpredictability and devil-may-care attitude. Are there other similarities?**

Because of how these bands operate, you don't really bring in finished songs. For example, there were two songs on *Dodge and Burn* that I'd tracked the guitar ideas for—although when I recorded the ideas I didn't have any specific songs in mind. They were parts I figured I'd use at some point, and they ended up in "Buzzkill(er)" and "Too Bad." In "Buzzkill(er)," the main guitar riff sound is an Electro-Harmonix POG and the Fulltone Tube Tape Echo. But with all these situations, it's more about discovering something new or thinking about your

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## DEAN FERTITA'S GEAR

### GUITARS

- Fender Telecaster
- Gretsch White Falcon

### AMPS

- Magnatone
- Fender Twin-Reverb
- Selmer
- No-name "magnetic" amp

### EFFECTS

- EarthQuaker Devices Bit Commander
- Fulltone Tube Tape Echo
- Moog MF-104M Analog Delay
- Electro-Harmonix POG
- MXR Micro Amp

### STRINGS AND PICKS

- Ernie Ball Regular Slinky strings (.010-.046)
- Fender medium picks

Hobnobber to the stars, Fertita doesn't just play in the Dead Weather. He also helms the keys on the road for Jack White's Raconteurs and Josh Homme's Queens of the Stone Age.

instrument in a new way. It's not so much that I develop a stockpile of riffs and stuff. It's more developing gut instincts and ideas.

**In the Dead Weather, you're a lead guitarist in a band that has a terrific lead guitarist behind the drum kit. Does Jack White ever voice opinions on your playing?**

I have free rein but of course, if he has suggestions, it's an easy relationship that way. I might want to go on and on doing takes, but having another guitar player there to say "That was the cool one" makes my job a lot easier. But he never suggests what I play or insists on anything. He enjoys playing a different role in this band.

**How would you define your role?**

It's difficult to pin down, but I feel like what I do is in direct connection to

Jack Lawrence on bass. It's important that the guitar and bass feel connected at all times. The [Electro-Harmonix Bass] MicroSynth-driven sound he plays is part of the defining sound of Dead Weather, so for me the guitar and bass become one big thing together. If Jack records a song with that sound on it, it will drive me to find another way to complete the space. I never really know what that is until I play it. It could be a clean part that cuts through Jack's bass part, or maybe the same part he's playing but with some fuzz—which we did for my riff on "I Feel Love"—or maybe some kind of counterpoint. On "Let Me Through" I felt the guitar needed to be an extension of his tone but still be distinctive. To emphasize the lyrics, the guitar needed to bust through, too. So I used the Bit Commander pedal, which gave a percussive, synth-like feel to the guitar.

**Do you typically approach the songwriting process in terms of sounds, or as notes, chords, and scales?**

I lean more toward sounds. That's probably the result of all the things I listened to growing up, and taking lessons and finding where my real interests were. I took theory classes when I was younger, and I liked learning about the way things relate to each other musically, but it wasn't exciting. I never found myself thinking that way when it came to being in a room with people and writing music. It's more instinctual, primitive, for me. I like to feel music more than think about it.

**Which of your early musical interests would you say fueled your interest in sounds over academics? Were you into Detroit bands like the MC5 or Iggy Pop, or textural jazz like John Coltrane or Sun Ra?**





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**"I might want to go on and on doing takes, but having another guitar player there to say 'That was the cool one' makes my job a lot easier." —Dean Fertita**

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No, I didn't listen to any of that stuff. I didn't even discover Iggy and the Stooges or the MC5 until much later, when I was already playing and recording in bands. It was pretty much whatever was on the radio, and growing up in the '70 and '80s in Detroit, all we had for radio was classic rock. I loved AC/DC, Led Zeppelin, and Black Sabbath. I wanted to be Jimmy Page for a while, until I realized that was impossible [laughs]. And there was some hair metal. Eventually punk rock came along and I heard the Dead Kennedys and the Sex Pistols.

**Do you record riffs on your own or spend time in the studio working on new guitar sounds to create a bank of ideas you can draw from?**

I really don't. I *should*, I think, but maybe I'm too lazy or just need that push of being in a recording situation. I did record the riff for "Buzzkill(er)" when I was in a studio one day—just by luck I came up with it and figured it would come in handy at some point. If I come up with an idea while I'm sitting around at home, I might record it on my iPhone, but I prefer to create sounds by reacting. In the Dead Weather, everything is very spontaneous: Whatever I play depends on what's in the room. I like to hear where the song seems to be going and then I might plug my guitar into a certain amp, grab a few pedals, and dial up a sound to see if it fits. If it doesn't, I'll tweak it or try to find another sound. Or I might walk up to the keyboard. It kind of depends on what's available and what other people are already doing. For me, being flexible keeps things exciting and creative, and everybody in the Dead Weather is into that kind of spontaneity.

**Let's talk about some specific songs on *Dodge and Burn*. "I Feel Love (Every Million Miles)" has this turbulent wall of sound that parts like the Dead Sea and**

**then rolls back in again. How did you create those huge, roiling guitar sounds?**

The intro riff features a Moog analog delay. I just plugged into it and started playing that riff, and it became the foundation for the song. It's also double-tracked. We played the song through three or four times, and then decided we wanted more clarity in the verses and choruses than the intro and the bridge riff—there was too much delay. So for the verses and choruses, we plugged my Tele into a combination of Selmer and Magnatone amps, with a Fulltone Tube Tape Echo—which I use mostly for the gain stage. In the verses, I leaned heavier on the Selmer and might've used an MXR Micro Amp as a preamp. The bridge was mainly my reissue Magnatone with the delay.

**Speaking of the Magnatone, what drew you to it?**

I have a reissue that I'm also using with Queens. It's about character with me—finding things that just twist your ear and your way of thinking a little. To hear the same things you've been playing forever differently is, again, key for me. I like the response the low strings have on the Magnatone, especially at lower volume. I've also recently been playing a Watkins Dominator II. That's also one of those amps that, wherever you set it, it sounds great and full.

**"Rough Detective" has a lot of radical separation and panning in the mix. How do you decide which songs get the psychedelic treatment?**

We did the album with the idea that we were going to make singles. When people used to make albums, they were a compilation of singles. We cut songs two at a time for the first eight we did. Mixing was about finding the strategy that complimented the other song. "Rough Detective" lent itself to getting a little psychotic with the mix.


**Besides the POG and Fulltone, do you have a palette of go-to effects?**

There were just a couple of effects that were used a ton on *Dodge and Burn*. The EarthQuaker Devices Bit Commander, which is an octave pedal, saw a lot of light for these sessions. And the Fulltone Tube Tape Echo. They make guitars sound big.

**What do you look for in a guitar?**

A new way of looking at doing the same thing. You learn the basics of guitar in a couple weeks and spend the rest of your life refining how you interpret those ideas. I recently got a Goya guitar, which is a 1960s Italian brand. It's not the easiest to play. I can't really take it on tour. It's hard to control the sound in a live environment. But I love that guitar, and it makes me play a little differently than my Tele or the Echo Park guitars I've been playing with Queens.

**Tell us more about this Goya.**

I used it in place of playing an acoustic. It's a hollowbody, so it was nice for playing at home and not having to plug into an amp. But the tone sounded very electric, even while playing it acoustically. That's what drew me to it. I could visualize how stuff was going to sound through the Magnatone. Every guitar has a personality of its own, and having a different sensation in my fingers makes me play differently. I don't have a "type." I go for something that makes me feel something that day. 



**YOUTUBE IT**

Dean Fertita's slippery, corpulent riffs set the mayhem mood while Jack Lawrence's rumbling bass and Jack White's brutal drumming provide a bombastic backdrop for Alison Mosshart's sultry howls on this live take of the new Dead Weather single, "I Feel Love (Every Million Miles)," on *The Late Show with Stephen Colbert*. **YouTube search term:** The Dead Weather Performs "I Feel Love (Every Million Miles)"





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Eagles of Death Metal's **Jesse Hughes** talks about musical wizards vs. magicians, the deceptive art of creating a sonic spectacle, and the greasy grooves he and best friend Josh Homme laid down on the new album *Zipper Down*.

BY CHRIS KIES

**P**lenty of bands have been thrown together solely to get girls. Others for fame and fortune. But Eagles of Death Metal formed as more of a joke or dare.

Granted, guitarist/vocalist Jesse Hughes *did* play guitar alongside his longtime best friend Josh Homme on the Queens of the Stone Age frontman's 1998 Desert Sessions compilation *Volumes 3 & 4*. But he confides, "I just did it to hang out with my friend and make music—I never had any intention, belief, delusion, vision, or pretense about becoming a rock 'n' roll musician." When the sessions were over, Hughes moved on with family life, working nine to five as a journalist, speechwriter, and even an ordained deacon. But then the bottom fell out.

"Around 2003, I was going through the ugliest divorce and custody battle you could imagine," he recalls. "The only thing on my mind was to show love to my son, so I started entertaining him with really basic songs. Josh came over one day

to check up on me, and he overheard 'I Only Want You' [later on EODM's 2004 debut, *Peace, Love, Death Metal*]. He asked me if I could do more songs like that. I laughed and sneered, 'I could write an album in a week.'" A few days later, Hughes delivered and Eagles of Death Metal was born.

The two friends—who've known each other since elementary school ("We instantly hit it off," laughs Hughes, "I think because we were the only two gingers in the desert")—play all the instruments, though over the course of four studio albums they've also welcomed friends like QOTSA collaborators Troy Van Leeuwen, Alain Johannes, Dave Catching, and drummer Joey Castillo both in the studio and on the road. Eleven years later—after a ripping debut and two albums full of greasy perv-rock with hypnotic grooves and the occasional vulnerable ballad—Hughes and Homme are back with *Zipper Down*, their most versatile record to date.

Photo by Chapman Baehler





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Eagles of Death Metal frontman Jesse Hughes rocks the Riot Fest 2015 crowd in Chicago's Douglas Park with his custom Maton MS500.

"I've always wanted to do a more complex demonstration of a deeper emotion and prove my understanding of proper songwriting structure," says Hughes of his musical evolution. "With any band, you come out and you're raw and powerful at first, but then you begin to understand dynamics and how sometimes less is more. That said, we concocted Eagles of Death Metal to be like a rock 'n' roll combination of the Special Forces and Ringling Bros. and Barnum & Bailey Circus."

So just *how* versatile—how "Ringling Bros."—is *Zipper Down*? Well, for starters, there's an eerie, buzzy, slapback-treated cover of Duran Duran's melancholy 1982 synth ballad "Save a Prayer." But we'll let ringleader Hughes elucidate further. When we caught up with him before the band's U.S. tour, he talked about everything from how Parliament-Funkadelic and flamboyant fitness ambassador Richard Simmons sparked his swagger, to why he'd rather be a wizard than a magician, and why he chose not to use big amps in the studio and eschews pedals onstage.

#### What is the creative process between you and Josh?

I typically write every lyric and riff in Eagles of Death Metal. I'll then record shitty little demos. Josh described it like this: I brought in a bunch of toys in a box, dumped them on the table, and asked him what we should play with first. He'll contend that his role is to keep the character and vibe of my original thoughts intact, but he'd be lying. I mean, in my opinion, he's one of the best musicians out there right now, and it'd be a disservice to me and the fans if I didn't borrow a little of his awesomeness for our material.

#### Since he primarily plays drums in this band, do you have to really push him to contribute guitar parts and vocal melodies?

He defers—almost to a fault—to me and my guitar playing. Side bands don't make you money. They don't give you fame. And I wouldn't be talking to you today if it wasn't for Josh allowing me to do my own thing under the Eagles



of Death Metal name. No one else in their right mind would sign up to be a marquee duo with me and let *me* take all the glory. When it comes to guitar, he'll encourage me to figure out the part and do it myself—it's like he has a chip on his shoulder over *my* guitar-playing abilities. It's beautiful [*laughs*].

#### Does he give you specific advice or push you in certain directions?

Oh god, no. Josh is not that type of dude. But what *I* will do is show him how I learn and absorb his subtle teachings and suggestions. When we go on tour after a few months off, I get all excited to show him how I can play slide a certain way or use hammer-ons more efficiently. I'm a goal-orientated person, and I've found that it's more fulfilling and holistic to achieve

goals for others rather than just doing it to make yourself look better.

I'm completely comfortable with what I'm good at—my trick is to play stupid-simple solos that sound rad enough that you forget that I'm only playing a few notes and just hanging on for the ride. The greatest thing I can tell anyone that works with someone that is clearly superior and more talented than they are is to make yourself available to their direction. Your ego might take a hit, but your songs, music, or whatever you're doing in life will be better because of it.

#### So did Josh contribute *any* guitar parts on *Zipper Down*?

Well, I wish it was a lot more, but he plays these really tricky solo runs that go through the bridge in "Skin Tight





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Hughes' go-to live guitars are a custom Maton MS500 and a baritone version of Maton's MS T-Byrd, both with lightning bolts instead of f-holes.



## JESSE HUGHES' GEAR

### GUITARS

- Custom Maton MS500
- Custom Maton MS T-Byrd baritone
  - Yamaha AES1500
- Fender Blacktop Baritone Telecaster
  - Teisco Del Rey

### AMPS

- Gorilla GG-10 (studio)
- Zinky Smokey (studio)
- Orange Rockerverb 50 MKIII (live)
- Orange Dual Dark 50 (live)

### EFFECTS

- Mosrite Fuzzrite (studio)
- Original orange Roger Mayer Axis Fuzz (studio)

### STRINGS AND PICKS

- Ernie Ball Slinkys (.010-.052)
- Dunlop .73 mm picks

Boogie" that are fucking mind blowing. And his slide intro to "I Love You All the Time" is something we wouldn't have done on previous albums because most of our previous slide playing is faster, abrasive. This is more melodic, soulful, and emotive—it's just like Gerry Rafferty's "Right Down the Line."

### Is there a method to your madness when you guys build songs?

I'm a hillbilly and I don't like to think too much, so I follow the James Brown school of thought: Treat everything like a drum so it connects in a manner like a Lego. It's much more cohesive—and tighter, say, than tinker toys [laughs]. We pan the rhythm guitars into both channels along with the drums so that they're together. Bass is treated like an isolated lead instrument so it can truly be heard and felt. And of course, lead guitar is completely separate so it sits on top of the mix.

The key to what we do—even if it appears simple and haphazard—is

that, when I write the songs, I write them complete. When Josh hears them for the first time they need to stand on their own. We don't like forcing ourselves to write, fix, or finish a song. When a song is deemed worthy, we need to focus all of our attention on properly arranging, layering, and mixing everything so it doesn't come off as sloppy or improv.

### Elaborate on what you mean by "treat everything like a drum."

When you play everything like a drum, the parts will change. If you listen to a Black Sabbath song, you'll hear Bill Ward slam on his kit [mimics drum-fill from "Iron Man"]. You can mimic that with a pick slide or moving power chords up and down the neck. You just translate the parts from the basis of the rhythm provided by drums. The more you can tap into that feel and flow of a drummer, the better your music and instrumentation will sound and feel. And that means the ladies will move [laughs].

Photo by Chris Kies



**Let's talk about some of the new songs. "The Deuce" seems to demonstrate that whole drum-playing mentality. It's got a highly danceable rhythm and cool dual-guitar solo.**

That's the only song on the record that I produced and I played everything on except drums, which Josh played. I think two guitarists playing the same thing sounds better than a single guy playing it twice, but Josh actually left the studio that day. So I recorded everything on top of his drum tracks and did two scratch guitar tracks for that solo so he could show up and work his big-fingered magic. When he said there was nothing he could add to it, it was one of the biggest compliments of my career.

**The cover of Duran Duran's "Save a Prayer" is a surprise.**

I'm a believer that there is nothing new under the sun. All forms of art are derived or *covering* something that came before. I enjoy picking songs or artists that you wouldn't expect to provide an element of surprise and to challenge myself. I also like to reveal and honor things. I think Duran Duran is one of the coolest bands of my lifetime, so why not celebrate them and have some fun? My only other requirement for covers is that every part and nuance from the original is represented somehow, even if it's with different instruments or tones. This song is the only one I've ever released—with Eagles or solo—that I only used a single vocal take. Josh challenged me to go with one lone vocal take. Listening back, I'm happy he insisted.

**Your music is typically so grooving and infectious. What do you attribute that to?**

I love women and I think they look best when they're dancing, man. The trick is to play music that is equally tough and danceable, so the guys will crank it and the women will bust loose at shows. That's all I'm after—good ol' rock 'n' roll.

But also, there's a collection of random circumstances that have shaped my musical proclivities—like being raised by my mother. She's the greatest example of a woman, and because of her I admire and look up to them all. When I write music or perform live, I want to celebrate their beauty and strength and help them have fun. Another thing was that she really enjoyed doing the Richard Simmons workout videotapes with her hot friends, and I'd hide so I could sneak a peek at them moving and shaking [laughs]. On top of that, my mom was really into disco and funk. To entertain me, she'd put on Parliament-Funkadelic records

and let me stand on her feet while we danced around the room. My earliest, fondest memories in life are centered around music and women.

**Do you have a favorite song on *Zipper Down*?**

I really dig "Skin Tight Boogie" because the talk box—which can normally be super cheesy—sounds badass, and my girl does a great

'80s-era-Blondie-style rap in the middle of it. And I can't get over "The Deuce," because it's probably my best guitar solo ever.

**What did you use for the huge, gnarly bass tone on "Skin Tight Boogie"?**

About 10 years ago a friend of mine took me to this sketchy-as-hell place where a guy had clearly come into

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Hughes, aka Boots Electric, treats a sold-out crowd in Madison, Wisconsin, to a solo cover of the Stones' song "Brown Sugar."

possession of a lot of stolen goods, and he had an original Mosrite Fuzzrite and an original orange Roger Mayer Axis Fuzz that had previously belonged to Jake E. Lee and was at one time used by Hendrix. I did my homework on that pedal and had it verified. It's the real deal, baby, and I'll be buried with that pedal [*laughs*].

Also, when you hear fuzz tones on any of the records we do, we're playing direct through the pedals—because we don't use amps. And when we do use an amp for the other tones, it's either a Gorilla GG-10 combo or a Zinky Smokey Mini Amp. Big sound doesn't require big amps.

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## "Big sound doesn't require big amps."

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### What do you dig about your Maton guitars?

Maton make the finest guitars, in my opinion. They aren't that well known in the States, because the company is based in Melbourne, Australia. They have a single master luthier that sits in the middle of their factory handcrafting these beautiful instruments. I like that they use indigenous woods like silkwood and blackwood that are similar to mahogany and maple. The hot-rodged handwound Mastersound pickups in my MS500—it's basically a stock MS500 with lightning bolts instead of f-holes—are fantastic because I don't use pedals live. So when they're paired with my Orange heads, they get right to the edge of distortion without losing any clarity or heft. Another thing I really like about these guitars is that the fretboard doesn't add much weight and it's rather thin, so I can grab it like a man with my little hillbilly fingers [*laughs*].

Another Maton I really adore is this new custom, one-off baritone based on

Photo by Chris Kies



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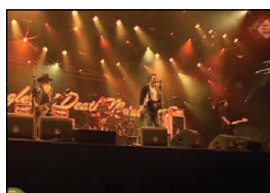
their MS T-Byrd. They sent me it when they caught wind that I recorded some parts with a Fender Blacktop Baritone Telecaster on *Zipper Down*. It has some really magnificent pickups that are modeled after my old “Special Kay” bass, and they have that old tone but without all the unwanted microphonics and issues.

#### Did you use any other guitars on *Zipper Down*?

On “The Reverend” I used my big-bodied Yamaha AES1500 semi-hollow because of its midrange snarl, and the first guitar I ever owned—a Teisco Del Rey that I got at a pawnshop for \$60.

#### Why are all your songs in open G?

If it’s good enough for Keith [Richards], it’s good enough for me, man! [Laughs.] It’s not entirely like Keith, since he only uses five strings and we always use the full six. I just double the bottom two strings in open G, so it’s G–G–D–G–B–D.



## YOUTUBE IT

Josh Homme (on drums) and Jesse Hughes create a greasy groove on this take of “I Like to Move in the Night” at this year’s Pinkpop festival in Landgraaf, Netherlands. Dave Catching is on lead guitar, and Matt McJunkins is on bass.

**YouTube search term:** Eagles of Death Metal - I Like to Move in the Night

#### What about the baritone?

That’s tuned to match the open G, but it has a lot of Bs and sharps. It’s basically two keys lower than my double-open-G tuning.

#### Musically, what’s next on tap for you?


I’d really like to do an honest-to-god gospel album like Elvis did. I’d like to explore my hillbilly, old-school country roots, since I’m originally from South Carolina.

#### As an artist, are you more satisfied onstage or in the studio?

I take the stage and I’m possessed—I love it! The studio is where you can show if you’re a magician or a wizard.

When Josh and I make records we have a rule—we don’t use technology to cheat. We didn’t cut or scrap [edit] any parts together, so everything you hear is a full take.

#### What’s the difference between a magician and a wizard, and which one are you?

A magician is a scammer that can go around and pull off a few sleight-of-hand tricks, but he is a master of nothing. A wizard has powers—true, absolute control of their power. I’d be a wizard, man—and not like Gandalf. I’d be a badass cross of Sherlock Holmes and Harry Houdini played by Antonio Banderas. 

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**CELESTION**



# There's Something About Mary

Avant guitarist Mary Halvorson reveals how her passion for Hendrix, Ornette Coleman, and a Guild archtop paired with a RAT and Line 6 DL4 fueled her fiery solo debut, *Meltframe*.

BY ADAM PERLMUTTER

Photo by Kelly Jensen





Several years ago New York guitarist Mary Halvorson felt a schism in her playing. She'd developed an approach to playing jazz standards, and an entirely different set of strategies for free improvisation. This displeased her.

But one day after playing three sets of standards at a restaurant gig, Halvorson headed to an improvisation gig with jazz's harmonic/melodic language still in her head and used those materials outside of their usual confines to uncanny effect.

Halvorson takes a similar approach on her latest album, *Meltframe*—her first solo-guitar effort, and a project that required three years of introspective study. Aside from the Duke Ellington piece "Solitude," she interprets music outside the standard repertoire: pieces by Annette Peacock, Chris Lightcap, Roscoe Mitchell, and other improvising composers, all of it written between the 1960s and the recent past.

Halvorson, 35, has long been a fixture in new-music circles. She entered that world via studies with iconoclastic multi-instrumentalist/composer Anthony Braxton when she was a Wesleyan University student in the late '90s. Based in Brooklyn since 2002, she's lent her singular voice to the ensembles of bandleaders like Tim Berne, Taylor Ho Bynum, Myra Melford, and Jason Moran, and she's worked with prominent guitarists like Marc Ribot, Bill Frisell, and Joe Morris.

A strong bandleader and composer in her own right, Halvorson leads a long-running trio with bassist John Hébert and the drummer Ches Smith. The trio also serves as the core of larger ensembles, often with unusual instrumentation—such as an octet with pedal-steel guitar. She also plays chamber-jazz duets with violist Jessica Pavone and avant-rock with the group People.

Halvorson spoke to us recently about the challenges of assembling a solo-guitar set, the joys of pairing distortion and delay effects with a traditional jazz box, and the lessons learned from her teachers and collaborators.



**How did you get into jazz—were you always a fan, or did that develop with experience?**

No. I played Suzuki [method] violin from about second grade to seventh grade, but I didn't like it much and wasn't great at it. At that time I was getting more into rock music—Jimi Hendrix, the Allman Brothers, things like that—so it made more sense to switch to guitar around seventh or eighth grade. I started with rock music, teaching myself out of tablature books. Eventually I found a teacher, Issi Rozen, who happened to be a jazz guitarist, so it was more by chance than anything that I started learning jazz.

**You grew up in Boston, a city known for its music schools. Did you study at Berklee or the New England Conservatory?**

I didn't go to college at either school, but NEC had a preparatory program for high-school kids, and Berklee had a

summer program I used to do, as well. Boston was a cool place to be for those reasons. After high school I went to Wesleyan University, where I got more serious about music. I studied with Joe Morris on guitar, and Anthony Braxton as a kind of all-round inspiration.

**What was that like?**

With both Joe and with Anthony, there was a lot of emphasis on exploring, taking risks, and finding your own voice. The point really got hammered into my head. With Anthony, it was inspiring to get a glimpse into his expansive musical world. He's created a completely unique world while having great respect for all types of music. That was really important to me: being open-minded about all styles.

**How did you find your own voice? Did you consciously synthesize those influences, or did it happen naturally?**

Photo by Tim Bugbee



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## MARY HALVORSON'S GEAR

### GUITARS

- 1970 Guild Artist Award
- Custom Flip Scipio flattop

### AMP

- 1966 Fender Princeton Reverb

### EFFECTS

- Line 6 DL4 Delay Modeler
- Mission Engineering EP1-L6 expression pedal
  - Pro Co RAT2
- Dunlop volume pedal

### STRINGS & PICKS

- Elixir Nanoweb strings (.012-.052)
- Dunlop 1 mm Stubby picks



It was both. I would listen to their music and see that they both had a strong thing that was truly theirs. But when I started studying with Joe, he would never play guitar in the lessons—he didn't want me to copy what he was doing [laughs]. He would play upright bass instead, and we would do a lot of improvising together. It was like, "You're studying with me, but that doesn't mean you're here to learn all the things I'm playing." He encouraged me to explore on my own.

**Meltframe is your first solo album. How did it come about?**

Over the years, people have often asked me, "When are you going to do a solo record?" But until recently I didn't really have a strong concept for solo guitar, and I didn't want to make an album just for the sake of doing one. I didn't want to do an all-improvised album, and I had no inspiration to compose for solo guitar. A lot of the composing I've done has been for larger projects—that's where my compositional brain has been for a while.

**How did you select material?**

I'm not a "tunes" player, but I practice a lot of standards for technique and to expand my knowledge of harmony. So arranging standards for solo guitar seemed natural. But pretty quickly I expanded beyond standards to any pieces that I like—compositions by friends, or things a little outside the standard repertoire, like the Roscoe Mitchell or Annette Peacock tunes I included. I gradually expanded that repertoire until I was ready to do some gigs with the tunes and record them.

**What links the pieces?**

The originals are so vastly different in style, so I guess the link is that they're all songs I loved at some point and spent a lot of time listening to. Like "Cascades" by Oliver Nelson: In high school I used to listen to *The Blues and the Abstract Truth* [which includes "Cascades"] all the time. There are also songs that got stuck in my head that I found myself going back to again and again. A few I listened to all the time in college, like Annette Peacock's "Blood," which I transcribed from a Marilyn Crispell record—a cover of a cover. Then there's more recent work, like the Chris Lightcap piece "Platform."

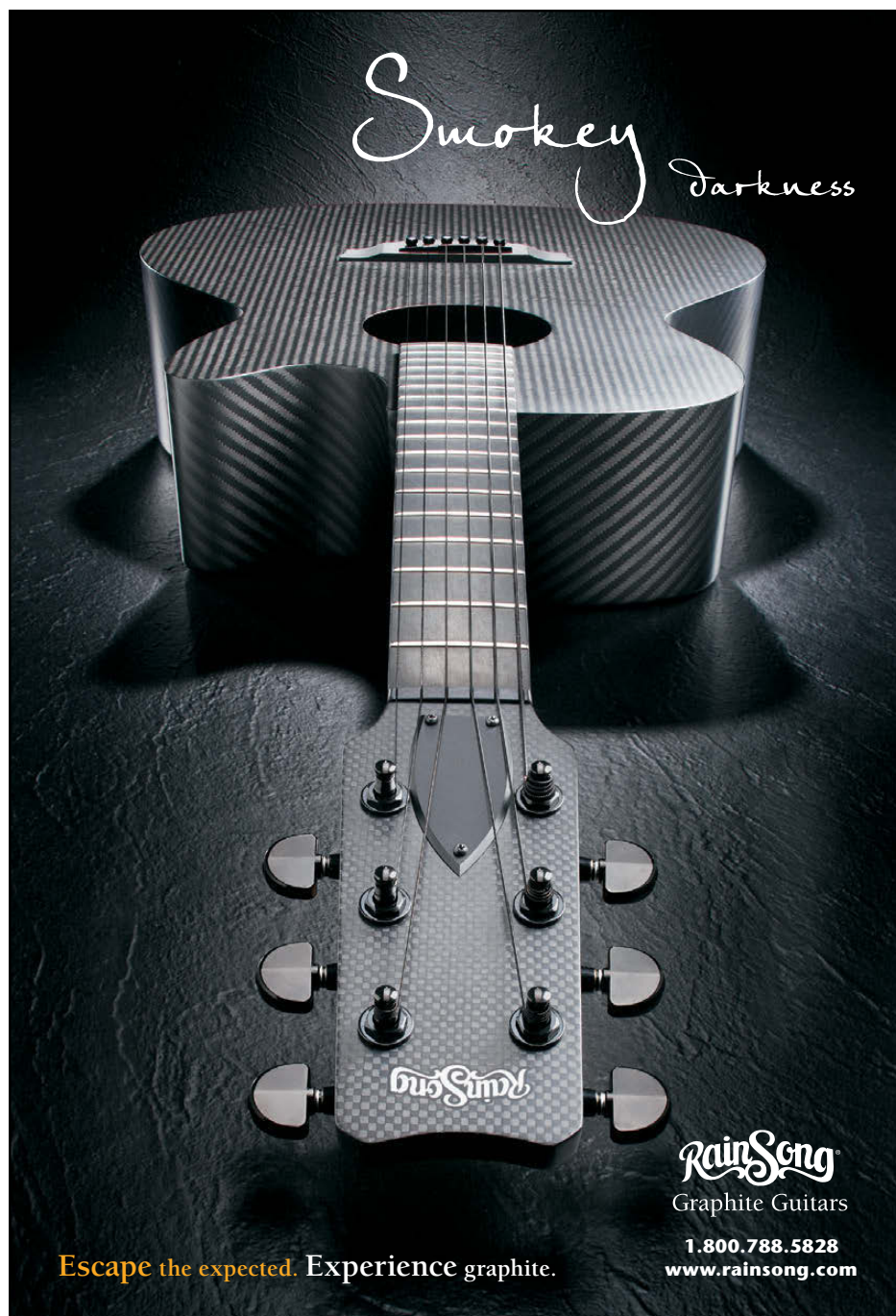
**Did you encounter any challenges?**

There was a ton of challenges. It's funny—everyone who's ever played solo guitar talks

about how difficult it is, so I was kind of prepared for it. It's a really different mentality. If you're having a bad day playing with a band, there's a bit less pressure—if you're not playing great, someone else might play something amazing, which can inspire you to take it up a bit. But when you're playing solo, it's just you. It's a little nerve-racking.

**How did you solve the problem?**

I would record myself and then listen back. In the beginning I found that I wasn't leaving any space, almost like a nervous talker. It felt like I was talking to someone but not saying anything—just anxiously blathering. I had to work on pacing and letting the music breathe, which took quite a while. The other challenge was to make each piece sound different,



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because it's just solo guitar—just one sound. I tried to create diversity and have the pieces fall in as broad a range of techniques and arrangements as I could, so it wouldn't feel like everything was in the same style with the same approach.

**Your sound is so lively. Was the guitar body miked as well as the amp?**

Yes. I always put a mic on the strings, because my guitar has a really nice acoustic quality, and I blend that with a mic on the amp—a Princeton Reverb. And we usually use a room mic on everything.

**Did you use the Guild Artist Award hollowbody you've played live for years?**

Yes. I found it in 2000 at a shop in New Jersey. At that time I was studying with a guitar teacher named Tony Lombardo at Wesleyan. He told me about that particular model, and then I managed to find one, though vintage ones don't pop up that often. I checked it out and really loved it. The guitar has a 17"



**YOUTUBE IT**

Before hitting the studio to record *Meltframe*, Mary Halvorson tests her solo set on a live audience while opening for Melvins' Buzz Osborne in Baltimore.

**YouTube search term:** MARY HALVORSON: Live @ the Ottobar, Baltimore, 7/17/2014, (Part 1)

body, a freakishly large headstock, and a loud, strong acoustic tone. I like having that acoustic quality, even though I play electric. It's a well-made, beautiful instrument that sounds great, and I've been playing it for 15 years now.

**Tell us about your recently acquired custom guitar.**

I started noticing that a bunch of upright bassists I play with have removable-neck basses, which make it easier to travel. It's usually fine to carry a guitar on a plane in a gigbag, but one out of 20 times it's not, and it's really stressful. So I thought, if bassists have instruments with removable necks, why can't I? I know an amazing builder—Flip Scipio—through

a mutual friend. He's just brilliant and is into doing weird one-off projects, so I asked him a few years ago if he'd build me a guitar with a detachable neck, and got on his long waiting list. He designed my guitar to sound and feel as close to the Guild as possible—he actually used to work at Guild, so he really knows the guitars. It has a vintage DeArmond pickup and a neck that feels very similar. It's even got the same inlays, flipped around to look weird. It's a flattop with a slightly smaller body than the Artist Award. The neck comes off and the whole thing fits into a suitcase that I can carry on or gate-check. Being able to travel with an instrument I love has changed my life.

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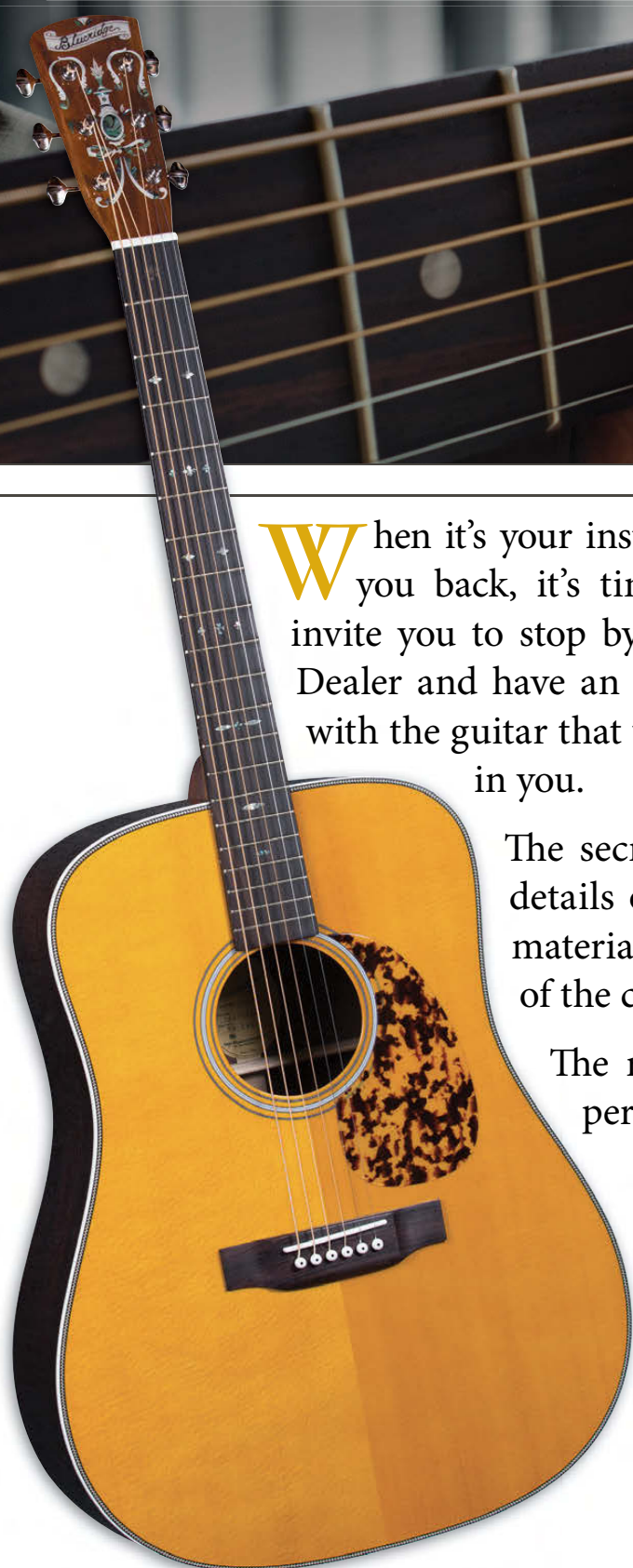
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# MELTMIND: A Look Inside Mary Halvorson's Head

*These three snapshots of Mary Halvorson's music show the wide territory her repertoire covers—both conceptually and technically—on Meltframe.*

## Ex. 1

1:38

Em11/B C6 Abmaj7/C Em11/B

let ring throughout  
\*with slide

\*Save for the open-G string and the encircled notes, which are fretted conventionally.

In her improvisation on Ornette Coleman's "Sadness," Halvorson employs a neat chord progression rotating around the open G string. With a slide on her middle finger, she reaches her fretting hand over the neck with her fingers pointed toward the floor. She frets the 8th-fret C with her first finger, letting the notes ring together. The G creates timbral contrast against the slide notes.

## Ex. 2

0:00

Free time

Halvorson opens her interpretation of Oliver Nelson's "Cascades" with a commanding, angular solo. It emphasizes the biting sonority of the minor ninth (D $\flat$ ) and demonstrates her penchant for combining distortion with her Guild archtop's natural acoustic sound. Note the judicious use of silence.

## Ex. 3

2:51

Freely

D $\flat$  Bbm7 Eb7 A7(b5) Eb9 D

Halvorson plays Duke Ellington's "Solitude" at an impossibly slow tempo. In her solo, she improvises a new chord progression with pared-down harmonies. Her Fender Princeton Reverb's tremolo makes her spare chord-melodies seem to sing.





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Though a vintage Guild is her go-to guitar, Halvorson also loves the custom flattop that New York luthier—and former repairman at Guild—Flip Scipio built her. It features a removable neck (for travel convenience), a vintage DeArmond pickup, and specs designed to feel and respond like Halvorson's Artist Award.



**Is it difficult to pair those guitars with distortion like you sometimes do?**

Not really. The only thing that gets tricky is if I'm playing loudly in a big place and feedback becomes an issue. But I've managed to find ways to either control or work with it. Ninety percent of the time feedback isn't a problem—I think it sounds really cool having distortion while hearing bits of the acoustic tone come through.

**You use a Line 6 delay pedal in a cool, idiosyncratic way, making its skittering sound part of your vocabulary.**

I got that pedal when I went to the New School's [New York City] jazz school for a year in the middle of college. I hadn't used effects much until that point. I think I got bored and wanted to experiment with sound. So I got a Line 6 DL4, probably because a lot of other guitarists had that pedal and seemed to like it. I started

experimenting and found a way to make that sound like a pitch shifter or ring modulator. The cool thing about the Line 6 is that it has an option to use an external foot pedal. When I first started using the sound, I was turning the knobs with my hand. But when I got a pedal, I could be hands-free and really integrate the Line 6 into what I was doing. Like the Guild, I've been using the Line 6 for 15 years. I've been through three or four of them.

Photo by Brian Cohen



“Various types of rock music have meant different things at various stages of my life, but on the whole what I take from the music is its energy and edge.”

**There are great tremolo tones on “Solitude” and elsewhere on *Meltframe*, presumably from the Princeton.**

I never really used tremolo until I got that amp six or seven years ago. A lot of times I do a sort of custom tremolo with the volume pedal—it’s almost like playing sax and having different speeds of vibrato. But it’s also nice to use the tremolo on the amp for a beautiful, consistent effect. And that amp has one of the best tremolos.

**Some of the album’s intense moments—like when you suddenly switch on the distortion pedal on “Aisha”—call to mind punk.**

**How important is the rock canon to your improvisation?**

It’s important. Various types of rock music have meant different things at various stages of my life, but on the whole what I take from the music is its energy and edge. I sometimes feel like harnessing that energy, using simple power chords and triads and the percussive attack that certain rock guitarists use. I’ve always been interested in integrating these things into more jazz-oriented stuff.

**Speaking of attack, yours is pretty enthusiastic.**

I have a memory of first picking up a guitar and intuitively picking like that. It’s always felt instinctive to play with a sharp attack. Also, I’ve always been drawn to upright bass, both the sound of the instrument and the way a bassist might really dig into the notes and have some buzzing sounds. That’s why I like having a big acoustic guitar like the Guild and being able to hear the

wood, the attack, and the natural sounds of the instrument.

**Your use of slide on Ornette Coleman’s “Sadness” is an interesting textural departure.**

I love the sound of bowed bass and wanted to emulate it in some way, so I used a slide. Also, I’m really interested in pedal-steel guitar right now, and I’ve been writing for a

group that includes a steel player. I used to play slide a bit in my early 20s, but not in any kind of idiomatic way—more as a sonic tool. Then I lost the slide and didn’t buy another until a couple years ago, when I first became interested in pedal steel.

**Let’s talk about some of your other projects. In *Ye Olde*, led by**



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Mary Halvorson plays with Vic Juris at the Alternative Guitar Summit 2014 at SubCulture in New York City.



**trombonist Jacob Garchik, you match wits with guitarists Brandon Seabrook and Jonathan Goldberger.**

That's been so much fun. Jacob's made these amazing arrangements for three guitars, trombone, and drums, and that band has a high level of energy and insanity—a crazy mesh of sound within the context of the arrangements. All three of us are pretty different guitarists.

There's an element of us combining to sound like one massive guitar, but the differences come out in interesting ways because we're working both together and against each other, creating contrast and unity at the same time.

**What is it like to work with Marc Ribot in his Sun Ship and Young Philadelphians ensembles?**


Marc's one of my favorite guitarists and has been since I started listening to his music in college. Getting a chance to play with him has been amazing. One of the biggest things I've taken from working with him is that he's so incredibly in the moment. He's always taking risks. You're always on your toes when you play with him—you never know what's going to happen. And that's something that I've been able to take into other situations. 

Photo by Scott Friedlander



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# SOLDERING 101:

## *A Step-by-Step Guide*



The essentials: a low-watt soldering iron, a stand, a small damp sponge, and a roll of "electronic silver solder" like this .020" 60/40 lead/tin rosin flux solder from Kester.



If your soldering stand doesn't house a sponge, just put a damp household sponge in a glass or ceramic dish. Other helpful tools: a hemostat and small clamps to hold parts still as you solder them, and a "solder sucker" bulb for removing solder.

*Want to learn to solder like a pro? If you follow the steps in our illustrated guide and dedicate some time to practice on old pots or 1/4" guitar cables, you'll be up and running before you know it.*

BY GEORGE ELLISON  
IMAGES BY ANDY ELLIS

Given the DIY nature of this issue, we thought it would be appropriate to address good soldering technique. If you're willing to invest a few bucks in some modest tools and spend a little time practicing the basics, you can learn to wire up guitars, stomp kits, speaker cabinets, and even do some simple amp mods. Once you understand the fundamentals, you can save money and derive a lot of satisfaction from working on your own gear.

### **The tools.**

You'll want a decent soldering pencil (a small type of soldering iron) rated at least 25 watts, but no more than 60 watts. (Many guitar techs like a 30-watt soldering iron for working on guitars and amps, and a 15-watt iron for working inside stompboxes and on delicate printed circuit boards.) You'll also want a stand to hold the hot iron when not in use, a damp sponge, and some rosin core solder made for electronic work (**Photo 1**).



You should also have some basic hand tools, such as wire strippers, needle-nose pliers, wire cutters, and something to hold the wire in place while a solder joint cools (**Photos 2 and 3**). There are tools sold specifically for holding wires and parts, available through an electronics supply house.

### Step 1: Prepare the Joint

For every joint, you need to find a way to hold the wire in position *without* using your hands (**Photo 4**). Wrap the wire through the solder lug once to make it hold tightly on its own, use tape to hold it in place, lay a pair of pliers on the wire to hold it firmly where you want it, or use a mechanical soldering aid to hold it.

---

**When you make a solder connection and rely on your hands to hold the soldered wire steady while the joint cools, you will fail.**

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Use whatever works, except holding the wire manually. When you make a solder connection and rely on your hands to hold the soldered wire steady while the joint cools, you will fail—no human hands are steady enough to hold anything perfectly still, and you want the wire to remain absolutely motionless while it cools. If there is movement, the result will be internal fractures in the solder.

### Step 2: Clean the Tip

The tip must be cleaned before each and every joint—you can use the damp sponge for this (**Photos 5 and 6**). Solder produces a by-product called dross very, very quickly, and the dross fouls the tip, preventing good heat conduction and introducing waste material into your solder joints.

### Step 3: Tin the Tip

Immediately before you get on the joint with the heat, add fresh solder to the tip of the iron to “tin” it. Simply feed solder directly onto the tip so it’s completely coated (**Photo 7**). A tinned tip will provide much better heat conduction than a tip that’s clean but not tinned.



In addition to hook-up wire, you’ll want wire strippers. Alternatively, luthier suppliers offer old-school “push-back” wire with a waxed cotton jacket (center) that eliminates the need for stripping off the plastic insulation from the end of the wire. Electrical tape and heat shrink tubing come in handy when you need to protect or insulate your work.



Before you attempt to solder a connection, the wire and component must be secured to assure they remain absolutely motionless. Here, a spring-loaded heat-sink clamp holds the wire in place while a vice grip gently clamps the pot shaft.



Wipe the hot tip with a damp sponge to keep it clean.



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#### Step 4: Remove the Excess Solder

Shake off the excess solder after tinning—you want the tip coated, but not dripping. I have a fire-resistant container beside my soldering bench, and after tinning I tap the barrel of my iron on the edge of the container to knock excess molten solder into it. You can use any fire-resistant container for this, such as a tin can or ceramic bowl, but use care not to start a fire. Because solder melts at such a low temperature the risk of a fire is very low—molten solder is unlikely to ignite even highly flammable materials like paper—but use care anyway!

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**Like most skills, soldering proficiency is acquired through practice.**

---

#### Step 5: Get on the Joint Right Away

As soon as you've removed the excess solder from the tip, get right on the joint. By "joint," I mean the wire and the solder lug, or the wire and the back of the pot, or whatever it is you're soldering. Dross will start to form on the tip very quickly, so as soon as the tip is prepared, get to work.

#### Step 6: Heat the Joint

Heat the *joint*, not the solder (**Photo 8**). You want the joint to be hot enough to melt the solder. It's a given that the iron is hot enough to melt it—just feed a little onto the tip and you'll see—but you also want the joint itself to be hot enough to do the same. If you feed solder onto the joint without it touching the iron (**Photo 9**), the solder will melt and be attracted right to the joint. You can watch the solder actually wick out onto the surface you're soldering to—this is what you want.

#### Step 7: Get off the Joint

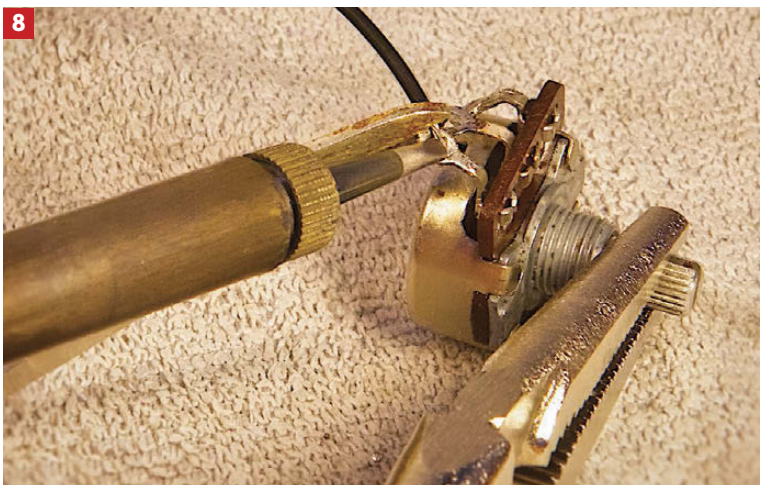
As soon as the solder has flowed onto the joint properly, remove the heat from the joint. Most components can stand a fair amount of heat, but some are more susceptible to damage than others, so there's no need to push your luck. Pots are fairly durable (unless it's a cheap pot), so it's highly unlikely you'll damage one by trying to solder a wire to its back. But again, there's no need to push your luck, so as soon



A clean, dross-free tip looks smooth and shiny.

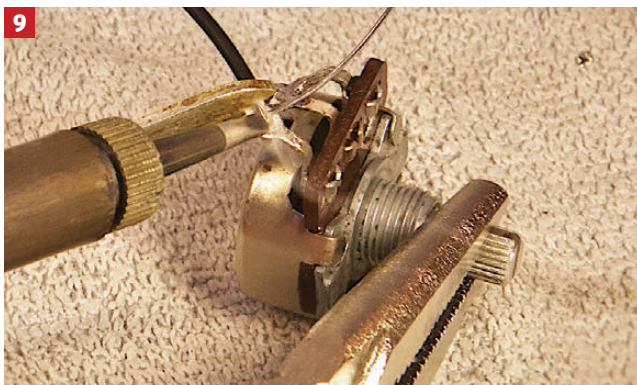


Add a small amount of solder to a freshly cleaned tip just before you solder a connection. When you see this telltale puff of smoke, pull the strand of solder off the tip, shake off any excess, and then move quickly to the joint.

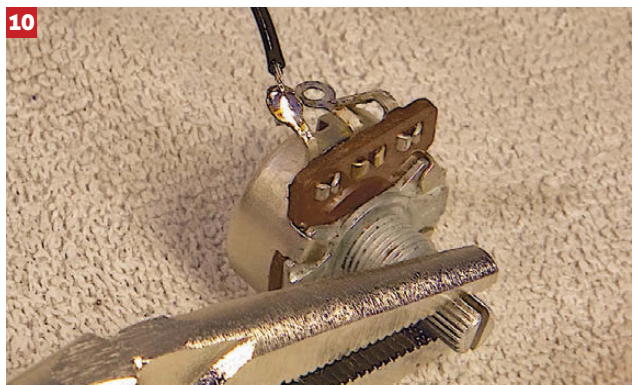


Gently press the iron's hot tip against the joint to heat it before you bring the solder into the equation. The goal is to make the joint itself hot enough to melt the solder.





While holding the tip against the joint, feed the solder onto the heated joint, not the soldering iron tip. Here the emerging puff of smoke indicates the solder is melting.



When the molten solder has flowed into the joint, pull away both the solder and iron. Keep the joint motionless as it cools and don't blow on it—the moisture in your breath will enter the cooling connection and potentially cause it to fail.

as you've completed the joint, pull the iron away and let the joint cool with the components remaining motionless. If you're soldering to a ring-shaped solder lug, then you'll want to fill it completely with solder (**Photo 10**). This will maximize the mechanical strength of the joint.

Like most skills, soldering proficiency is acquired through practice. Employing good technique will allow you to

become competent all the more quickly, so follow these steps, and you'll be soldering like a pro in no time. You should probably practice on projects that aren't expensive or mission critical—you might want to think twice about rewiring your only guitar before that gig with Clapton tonight. But if you keep at it, you'll be one step closer to being a consummate DIY'er.



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# TWO WAYS TO IMPROVE YOUR SOLDERING PROJECTS

By Andy Ellis

After you master the basics, there are two more skills to add to your bag of tricks: removing old solder and installing heat shrink tubing.

There are plenty of occasions where you'll wish you could remove old solder and re-use a part. For example, you might have rescued a volume or tone pot from a previous mod or project. If it's a high-quality pot, like those from CTS, why toss it and buy a new replacement when you can put the old one back into service? It's easy to reverse the soldering process and remove old solder and bits of wire. You simply need a solder removal tool. There are several types, including disposable braided wire that's

goes up the tip and into the bulb (Photo 12). Look at that—a nice clean lug ready for its next mission (Photo 13).

**Tip:** *It's good to recycle pots and parts, but never try to reuse old solder. Clean it off and start fresh.*

In case you're wondering what happens to the old solder, every few months you simply work the tip out of the bulb, shake the collected cold solder beads into the trash, and reinsert the tip into the bulb. Good to go.

When you're working with wire and electronics, you'll often encounter instances where you need to insulate a connection from other wires or components.

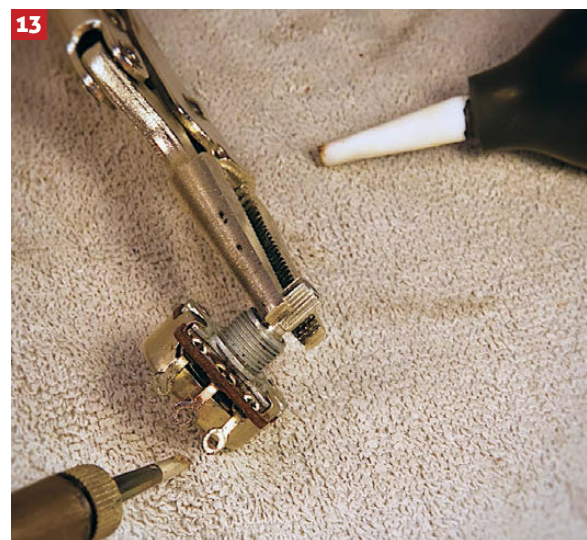
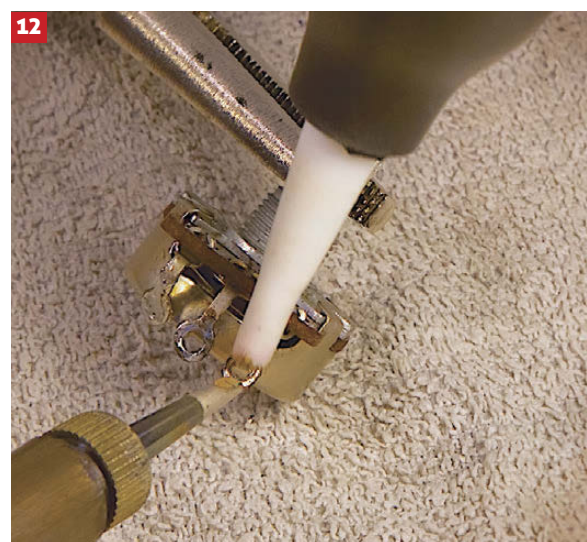
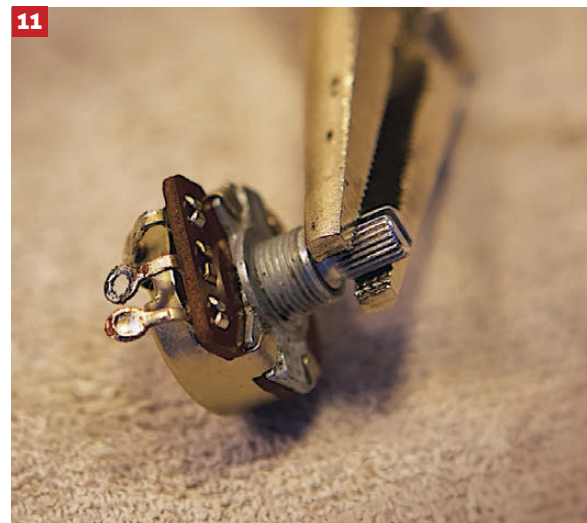
## It's easy to reverse the soldering process and remove old solder and bits of wire. You simply need a solder removal tool.

designed to wick molten solder away from a joint, and various vacuum pump tools and "solder suckers." I prefer a simple rubber bulb with a heat-resistant Teflon tip.

Here's how it works: Stabilize your component, in this case, a pot (Photo 11). See how one lug is filled with solder? Let's make that go bye-bye. Apply heat to the lug with a freshly cleaned soldering-iron tip. When you see the solder turn shiny and molten, hold the bulb away from the lug, squeeze and hold the bulb, and then bring its tip to the lug and release the bulb. Fffffff! The molten solder

For example, you want to install a favorite old pickup into another guitar. However, the pickup leads have been cut back over the years and now they won't reach the intended switch or pot, which means it's time to splice short extensions to the pickup leads. No problem, except if the exposed wires touch each other or other components, they'll create a short and you'll hear only silence (or an annoying hum).

Electrical tape will do the job to insulate the splices, but heat shrink tubing—aka heat shrink—offers a more elegant solution. To make





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this work, you'll need a heat source. Some folks use a lighter, but I prefer a heat gun because I like to avoid open flame in my workshop. Heat guns aren't expensive and they get the job done efficiently and safely.

The details: Designed to slide over wire of different gauges, heat shrink comes in various diameters. After you select the right diameter

to comfortably slip over your wire, cut off a piece that will straddle the solder splice or joint you plan to cover. The pros suggest a length that's about three times as long as the exposed section. Use hemostats or a clamp to temporarily hold the ends together while you gauge the length you'll need to cut (**Photo 14**).

Next, remove the clamp, slide the heat shrink over one end of the wire (keep it far away from your hot iron) and solder the wires. When the solder has cooled, slip the heat shrink over the new joint, center it, and fire up the heat gun. The tubing will start to immediately contract around the joint (**Photo 15**). Don't worry, air from the heat gun doesn't get hot enough to compromise the solder joint. Once the tubing has completely closed up around the wire, you're done. The joint now has a tough, new skin to protect it. 


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# How to Intonate an Acoustic 12-String

STORY AND PHOTOS BY JOHN LEVAN

**I**ntonating a flattop's bridge saddle is tricky, and that's especially true when it comes to vintage 12-string guitars. Back in the day, it was rare to find an acoustic 12-string with a compensated bridge saddle. In fact for many players, the slightly out-of-tune jangle was a big part of a 12-string's aural mystique. But times have changed, and as music and recording technology have evolved, most musicians and producers expect a 12-string to play reasonably in tune all along the fretboard.

Intonating a flattop 12-string with a straight bridge saddle involves filing unique break angle and intonation points for each string—an operation that requires skill and patience. Let's investigate and see exactly what's involved.

We'll use a beautiful 1972 Martin D-12-20 as our project guitar. The guitar was in good shape when its owner brought it into the shop, but it didn't play even remotely in tune and the action was uncomfortably high. Many old 12-strings require a neck reset (an expensive proposition), but I checked the neck angle and it was fine. Fortunately for the guitar's current owner, the problem was rather simple. Somewhere along the line a previous owner or tech had installed a saddle that was both too high and incorrectly radiused (**Photo 1**).

My job was twofold: lower the action by reshaping the bridge saddle and then intonate each string. I knew that once I completed these tasks, the D-12-20 would play better than ever and sound more in tune at the higher frets.

**Requisite tools.** To intonate a 12-string, you need a few specialized luthier tools. These include a string action gauge, radius gauges, and a radius block (the latter must match the fretboard radius). You'll also need a mechanical pencil, a capo, self-adhesive 80-grit and standard 400-grit sandpaper, and flat, single-cut miniature needle files.

**Preliminary check.** Before starting this kind of work on a guitar, it's important to tune to concert pitch and

take measurements. These specs provide a baseline to help gauge your progress. You'll be taking several measurements, so write them down as you go.

First, put a capo on the 1st fret and measure action at the 12th fret with a string action gauge. Take this measurement for both the 1st and 11th strings—the first of the doubled high Es and the low E string. (We'll assume your 12-string has the standard octave-string configuration, i.e., the octaves in each pair are closer to you than their wound partners. Some electric 12s, notably Rickenbackers, reverse this order.) Measure the distance between the bottom of the string and the top of the 12th fret.

Next measure the relief: With the capo still on the 1st fret, hold the 11th and 12th strings down at the 14th fret and measure the greatest gap between the bottom of the 11th string and the top of the frets. Typically this occurs around the middle of the fretboard, somewhere between the 7th and 9th frets. You can identify this gap by tapping the 11th and 12th strings against the frets while still pressing them down at the 14th fret.

Now remove the capo and check the action at the 1st fret.

Finally, using a strobe tuner, check the intonation for each string. (Naturally, this is tricky on a 12-string because you have to pluck each individual string of the six pairs.) Starting with the 1st string, play the 12th-fret harmonic—make sure it's in tune—and then fret the same note. If the fretted note is sharp or flat compared to the reference harmonic, write down how many cents it's off and in which direction. Repeat the process until you've documented the intonation at the 12th fret for all 12 strings.

**Our 12-string's preliminary specs.** Here's how the D-12-20 measured up: The action at the 12th fret was  $6/64$ " for the 1st string and  $7/64$ " for the 11th string. Too high to play! The relief was  $.012$ "—perfect for my client's playing style. At the 1st fret, the 1st string was



$1/64$ " and the 11th string was just over  $2/64$ " above the fret. Again, perfect action at the string nut. At this point, I knew my job would simply entail lowering the action at the bridge saddle.

When I checked the intonation with a strobe tuner, and compared the 12th fret harmonics to their corresponding fretted notes, I found most of the fretted notes were from two to six cents sharp, although the G and D pairs were flat by about three cents.

With these measurements in hand, I was ready to get to work.

**Sanding the bridge saddle.** My next step was to check if the saddle's radius matched the fretboard radius. My radius gauge revealed what I'd suspected—it wasn't even close. The fretboard had a  $14$ " radius (**Photo 2**), but the bridge saddle was around  $8$ ". This meant the saddle had a much more pronounced arch than the fretboard. I knew if I didn't reshape the top of the saddle to match the fretboard, the D and G pairs would be radically higher than the other strings.

Using a  $14$ " radius block and self-adhesive 80-grit sandpaper, I sanded the top of the saddle until it matched the block's radius. Here's the most accurate way to reshape the top of the saddle: Place the radius block in a vise with the radius side up and affix the self-adhesive sandpaper to the block. Now remove the saddle from its bridge slot, turn it upside down, and gently sand its top in the block's concave area. If you shine light behind the saddle, you'll be able to see how much material you're removing



from the saddle and make sure its radius matches the block (**Photo 3**).

Since the action was pretty high on our 12-string, I removed about 1/32" from the top of the saddle at both E string pairs. I removed quite a bit more from the middle of the saddle to flatten out the arch.

Once the saddle is correctly radiused, slip it back into the bridge and grab your mechanical pencil.

**Marking the saddle.** Now it's time to draw guidelines on the saddle crown for both the individual intonation points and the various angles needed to guide the strings as they emerge from the pin holes (**Photo 4**). But before you start drawing lines, let's take a moment to discuss where the strings should sit on the top of the saddle. First we'll deal with the intonation points, then the string angles.

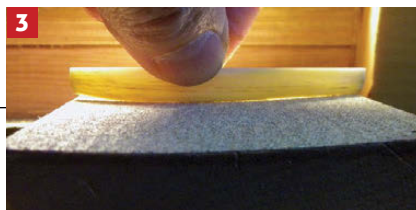
Fair warning: Setting the intonation entails some trial and error. You can estimate where each string should rest on the saddle, but it's nearly impossible to get it perfect on the first try.

For this task, it's helpful to mentally divide the 12 strings into three groups:

- The six E, A, D, G, B, and E strings you'd find on a regular flattop. We know the lowest four are wound, and the top two are plain. So far, so good.
- The plain octave strings (E, A, D, G) that pair with the wound E, A, D, and G strings.
- The doubled unison B and high-E strings. Just like their mates, these are plain.

Okay, think about the first group—our standard 6-string. As a general rule, both the low E and B strings intonate best at the rear edge of the saddle (closest to the bridge pins). The G string's intonation point is typically at the very front of the saddle (closest to the soundhole).

That leaves the high E, D, and A strings to be accounted for. The high E will typically fall between the B (remember, that's at the rear of the



saddle) and the G (at the front of the saddle). The D and A strings usually create a stair-step pattern between the G and low E strings, with the D closer to the G, and A closer to the low E.

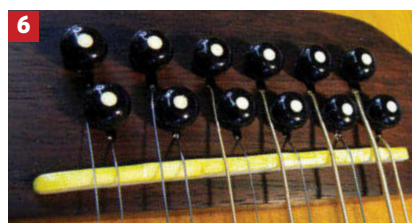
The four plain octave strings are a different story. Both the low E's octave and the G's octave points will be at the front of the saddle. The octave strings for A and D will be further back toward the bridge pins.

As you'd expect, the unison B and E strings sit at exactly the same point as their siblings.

Now consider how each string travels from the pin hole in the bridge to the top of the saddle—the intonation point. On this Martin, the six primary strings—those that correspond to a standard flattop—are set back toward the rear of the bridge. The six additional strings, the four octaves and two unisons that make a 12-string such a beautiful beast, emerge through the soundboard and bridge right behind the saddle.

On the rear of the saddle, you need to file individual angles (think of them as ramps) that allow each string to reach its intonation point without encountering a sharp edge. Correctly filed angles minimize string breakage and maximize sustain. The angle for the primary strings will be shallower than the six extra strings.

**Filing the saddle.** This is where your inner artist gets a chance to shine. Using a miniature flat file, carve each string's intonation point and rear angle, based on your markings (**Photo 5**). Go slowly, and to prevent any sitar-like buzzing, be sure each




string leaves the saddle from a crisp, defined peak as it heads toward the soundhole.

**Checking intonation.** As I mentioned earlier, there's a lot of trial and error involved with intonating a 12-string. Once you've done the first pass of filing, put on a fresh set of strings, tune them to pitch, and check the intonation.

The goal is to have the fretted note at the 12th fret match the corresponding 12-fret harmonic. Use a tuner to keep track of how close the fretted note comes to its reference harmonic. If the string frets sharp, file the intonation point back toward the rear of the saddle. Conversely, if the fretted note is flat, carve the intonation point forward toward the front of the saddle. When you're done, the saddle should look similar to **Photo 6**. Don't be dismayed at how many times you'll need to slacken and remove the strings, file the saddle, restring, retune, and recheck the intonation.

**Wrap it up.** When you've got the intonation dialed in to your satisfaction, take off the strings one last time, pop out the saddle, and then polish it with 400 grit sandpaper, followed with a polishing cloth. Restring, retune, and you're good to go.

This process takes a long time to master, but in the end, it's worth it when your 12-string plays in tune all the way up the neck. 



**JOHN LEVAN** has written five guitar repair books, all published by Mel Bay. His bestseller, *Guitar Care, Setup & Maintenance*, is a detailed guide with a forward by Bob Taylor. LeVan welcomes questions about his PG column or books. Drop an email to [guitarservices@aol.com](mailto:guitarservices@aol.com).



# Challenging the Visual Status Quo

BY VICTOR BRODÉN

Constructed from different pieces of wood, my Sandberg bass can confuse engineers and producers who "listen" with their eyes.

Being a freelance bassist—as opposed to being in a band—means you’re always working towards becoming a true jack-of-all-trades. You have to immerse yourself in reggae, funk, neo soul, classic soul, rock ’n’ roll, jazz standards, and any other style you might encounter on any given gig in the real world.

A big part of this exercise is becoming very familiar with the type of instruments featured on all those genre-defining records, what pickup blend was used, where the bassist was plucking the strings to create the right balance of attack versus warmth, and more. You can spend a lot of your time intentionally replicating the original sound, or you can just enter the tone-and-feel ballpark without getting *too* close. (The latter grants you a little more artistic license as you play “Brown Eyed Girl” for the umpteenth time.)

The weight of all this tradition is very present in the mind of your coworkers—whether they’re engineering the session or playing with you in the ensemble. If you’re performing a classic Kiss song with an old Gibson Ripper while making a demonic face, people will assume from your attention to detail that you *must* be a good bassist. What I’m getting at is people hear with their eyes in a big way.

Here in Nashville, unfortunately, many recording engineers get a little scared if you walk into a session with anything other than a vintage Fender or a modern replica they might recognize. If the bass has a beat-up sunburst finish, you *must* be really good. If you have a hollowbody or semi-hollowbody bass like a Hofner or a vintage Vox as a backup, you must be an expert!

I have a persistent urge to challenge the status quo when it comes to the “acceptable tools of the trade.” Like many other musicians who grew up listening to iconic bands that spent unbelievable amounts of time and money on clothing and a stage show, I’m of the belief that presentation is a viable and important element of the music itself—not an added bonus and not something only for poseurs.

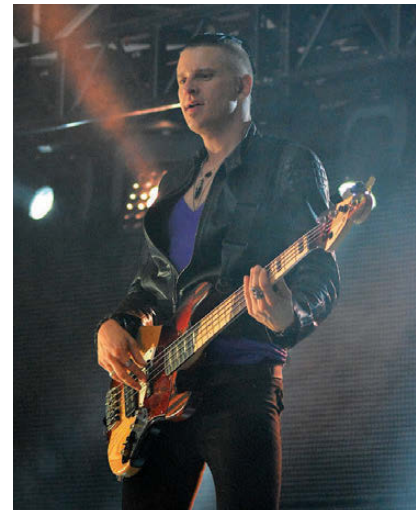
Of course the choice of instrument is an important part of this equation, but you can certainly choose an instrument that shows your influences and makes a statement about your individuality. *If* you bring the heat and the groove, people who may have initially dismissed you because of your choice of instrument will have to concede you just made magic with something they thought wouldn’t work.

Still, like many others, I grew up playing P-style basses. I wanted that iconic look and didn’t veer far from it for many years. But luckily for us bassists, there are countless talented luthiers building great bass guitars right now. Whether their builds are based on tradition with a modern flare or completely futuristic Millennium Falcon-style creations, they’re worth checking out.


The first sign of me breaking the mold was when I briefly studied jazz at the University of Miami and had the budget version of Yamaha’s Billy Sheehan signature model. It was lime green and had scalloped frets and large-block inlays on a light maple fretboard. I’d also placed red rose stickers on every fret with an inlay. It looked hideous, but for some reason I thought it was cool at the time. My fellow students and the main instructor were horrified and referred to my bass as the “Candy Cane.”

But here’s the thing: My main concern still remained having the right *tone* for the genre. We were playing jazz standards, so I had to emulate an upright. The Yamaha had a big, woofer pickup placed right at the neck/body joint that produced stunningly warm sub-lows. And with the tone knob turned all the way down, it produced a slower attack that was perfect for the style. If people had just closed their eyes and listened with their ears instead of their eyes, they would have heard the absolutely appropriate tone I was producing.

One of my current main instruments is a German-built Sandberg with a J-style body, a Music Man-style pickup



in the bridge, and a J-style pickup in the neck. Sounds traditional enough, don’t you think? Surely nobody would have a problem with this bass, right? Wrong. The bass is constructed from several different pieces of body and fretboard woods that are glued together. It looks like a wacky paint job, and when people first see it, they are completely dumbfounded. Nobody realizes they are looking at a fairly normal J5. And tonally, the bass can easily be *more* vintage-sounding than many vintage basses.

I’ve been playing this bass for three years, and I know I’ve lost out on work because of the way it looks, but I’m fine with that. People expect the bass to sound very modern at first glance, yet even after they hear it they’re sometimes unable to undo that initial visual impression. But now if I show up without it, people are *finally* starting to say, “We hired Victor, where is the Victor bass?” So stick to your guns, or more specifically, your bass. Play your favorite instrument. Life is too short not to. 



**VICTOR BRODÉN** is a Nashville bassist and producer who has toured and recorded with more than 25 major-label artists, including LeAnn Rimes, Richard Marx, Casting Crowns, and Randy Houser. You can reach him at [vbrodén@yahoo.com](mailto:vbrodén@yahoo.com).

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## Adjusting Bass Pickups

BY HEIKO HOEPFINGER

Now that we've looked at the extremes of pickup adjustment ["Mysterious Magnetism," October 2015], let's see what it takes to get your pickups dialed in just right. Before you begin: It's pointless to start adjusting pickups if the rest of your instrument isn't properly set up. No need for it to be perfect, but at least it should be decent. And remember to tune up carefully.

Of course, a manufacturer's recommendation is a good starting point. Factory measurements typically refer to the distance between the top of the pickup and the underside of the string. (Conceptually, it's the same way we'd measure action between the fret and string.) But consider this: On the bass, it makes a difference whether you're measuring the distance from the center or the bottom of the string—just think of the trending 0.178" (4.5 mm) low F# string. If our goal is to make precise adjustments within a magnetic field, the discrepancy between these two points of measurement can be significant.

Another thing is the choice of strings. Nothing to worry about if you're only doing this for fun, but if you intend to adjust your pickups once and for all time, choosing strings is a crucial first step.

Ironically, no one recommends a fresh pickup adjustment after you've changed string gauge or even magnetic string materials, but they should. There are three elements (nickel, iron, and cobalt) that are ferromagnetic at room temperature and each of these are used by string manufacturers, with cobalt being the latest to the game. Of course, the *alloys* manufacturers use have different magnetic properties than the elements, and also it's not really ferromagnetism that counts. (This is not the place to dig deeper into paramagnetism, diamagnetism, or ferromagnetism, but I'm glad I was finally able to mention them.)

You'd anticipate having to readjust a pickup if you could swap its magnets,

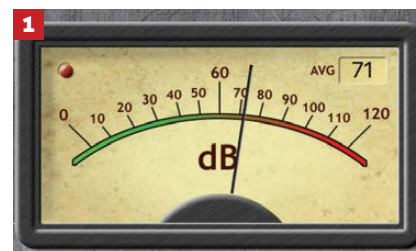
right? To a certain degree, this is what you do when you change string materials. Generally, nickel is magnetically weakest, followed by steel, and finally cobalt as the strongest. And the magnetically weaker the string material, the closer you can go to the pickup before the magnetic pull introduces its negative effects. (To remind yourself of what these are, take a moment to revisit my previous column.)

The practical part is easy: Get the right tool for your pickup height screws and decide how you want to remember the height changes you've made. This can include writing down all measured distances on the bass and treble sides of each pickup, or sticking tape to the sides of the pickup to mark how far it protrudes above the body. Feel free to adjust in incremental steps or make drastic changes in height. As long as you remember where you've been before, it's all fair game.


For most of us, it makes sense to start with the bridge pickup. Not only is it the one with the most timbral character, it also yields more mids and treble, and that makes it easier to notice the sonic differences brought on by height adjustment.

Before you pick up that screwdriver, now is a good time to sit back and think about how you want to judge the results. For me, this is the most important step because we all tend to fall for a simple psychoacoustic effect: the tendency to confuse the sweet spot and good tone with loud and powerful! As with string materials, loud isn't always better—we have amps to take care of that.

To get serious results, I wouldn't start this project without a tiny helper—a dB meter (Photo 1). Any cheap app or integrated functionality of an audio program does the job. Why? We don't need exact measurements, we simply need comparability. And once you level a pickup to your favorite volume, always make sure to turn down your bass between each subsequent adjustment. The dazzling effect of first impressions



might influence your tonal judgment, so simply plucking a string and cranking it up to the earlier volume is a simple way to focus on tone.

Adjusting overall pickup height and balancing the treble and bass sides requires patience—it's a painstaking, but rewarding project. Obviously, the more pickups on a bass, the trickier it can be to adjust. This Löwenherz bass (Photo 2) has 12 coils configured as six stacked single-coils. Fortunately, they're packed into just three humbucker housings, which dramatically decreases adjustment complexity. 



**HEIKO HOEPFINGER** is a German physicist and long-time bassist, classical guitarist, and motorcycle enthusiast. His work on fuel cells for the European orbital glider Hermes led him to form BassLab (basslab.de)—a manufacturer of monocoque guitars and basses.

Photo 1: Courtesy of basslab.de Photo 2: Courtesy of Dieter Stork





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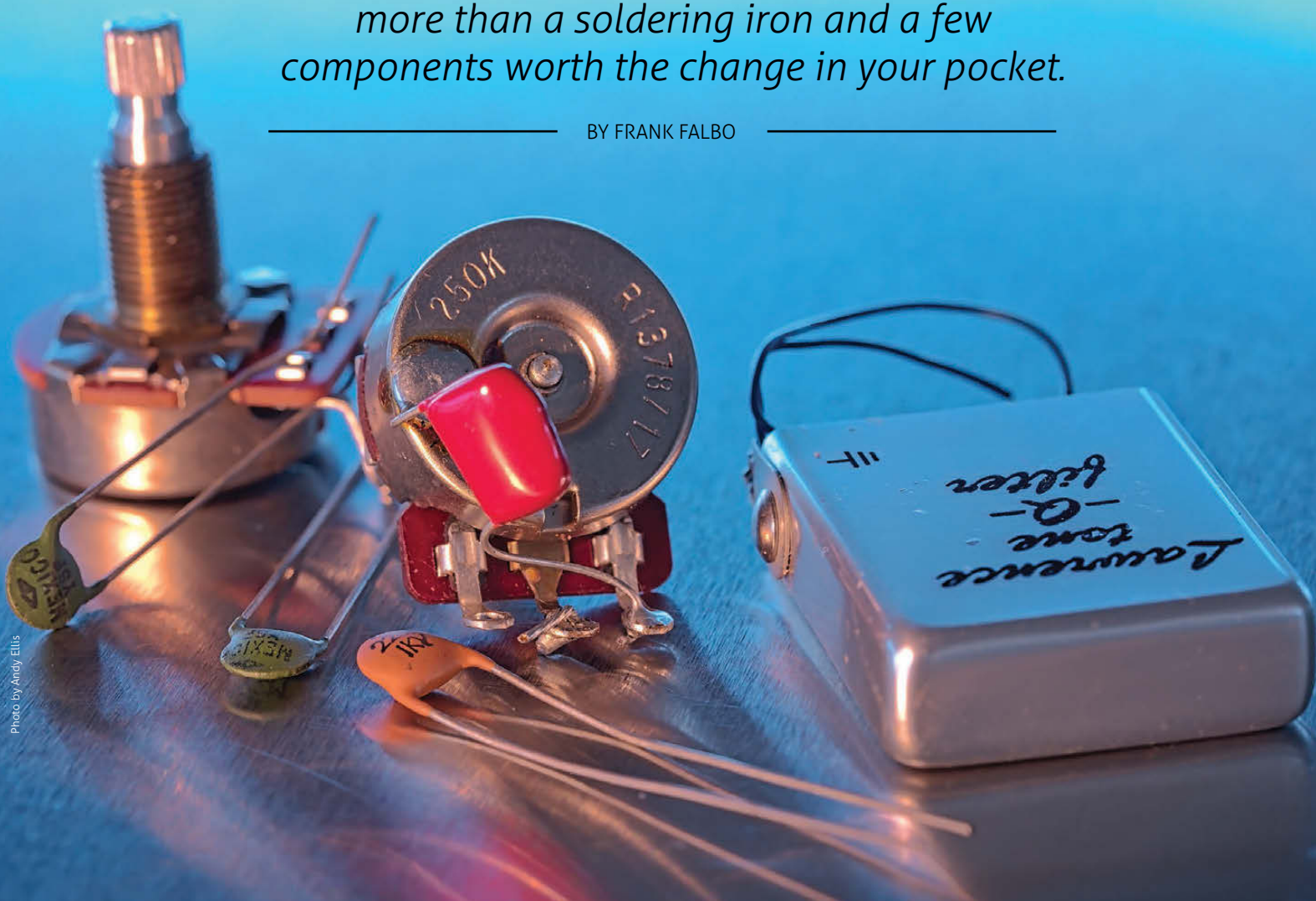
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more than a soldering iron and a few  
components worth the change in your pocket.*

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BY FRANK FALBO

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## Author Bio

### FRANK FALBO

Frank Falbo was Vice President of Product Development at Seymour Duncan from 2007 to 2012, is currently on Fishman's Fluence R&D team, and also runs his own guitar company, Falbo Guitars.



**L**ike it or not, there's a deeply symbiotic relationship between your guitar's pickups and its controls when you're using passive pickups. That's true even when your knobs are turned all the way up. It pays to understand how these components shape (or rather, *complete*) the sound of your pickups. Remember, the artisans who painstakingly designed your favorite passive pickups did so with pots, caps, and some guitar cable as part of the equation.

There's a good chance your guitars still contain their original potentiometers and capacitors, and they may be perfect for you and your music. On the other hand, a bit of experimentation just may transform your guitars in ways that better suit your style and tastes. It's not an expensive process, either—a good potentiometer costs about as much as a set of strings.

But experimenting blindly probably isn't the best approach. This article explains how the parts in question affect your tone, and offers suggestions to try in pursuit of your ideal sound.

### What We're Not Discussing

We aren't going to parse over different capacitor materials—only capacitor values. The internet is overrun with opinions on capacitor types, x-rays exposing tiny caps hidden inside bumblebee shells, and rants insisting that it's impossible to play a convincing rendition of "Red House" without NOS caps dipped in quinoa oil and bong resin. (Don't listen to that guy.) For demo purposes (visit [premierguitar.com](http://premierguitar.com) to hear pot- and cap-swapping sound samples), I've used Russian paper-in-oil capacitors.

If you prefer a different material, use caps of that type. But the comments here about relative capacitor *values* apply, regardless of cap material.

We're also not discussing potentiometer types or *tapers*. ("Taper" refers not to a pot's overall value, but the way the value is distributed across the shaft's sweep.) Almost all guitar pots are audio taper (as opposed to linear or reverse-logarithmic), though some companies customize the sweep. Our focus here is how pots affect tone, even when they're on 10.

### The Fog of Tone

Much like a foggy day reduces visibility, or grease on the lens blurs your photo, resistance and capacitance filter your pickups. Actually, they go beyond that: In a way, they reach backward and shape the way the pickups resonate. Sometimes it's in a good way, and sometimes not.

There are a tremendous number of variables that make your pickups sound the way they do—magnets, alloys, wire type and amount, and more. But there's one universal thing that's truly and directly impacted by your pots and caps: the pickup's *resonant peak*.

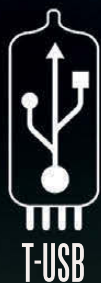
Every passive pickup has an inherent resonant peak. It's usually the pickup's strongest frequency, since that's where the coils resonate the most. In general, a single-coil's peak is higher (more trebly) than a humbucker's. When comparing otherwise equal pickups, a weaker, more underwound pickup's peak is higher than a hotter, more overwound version. (As a pickup maker, I realize the vast chasm of detail I'm omitting for now, so bear with me, pickup superfans.)

Although a resonance sweep doesn't truly represent a pickup's overall frequency response, it's a measurable



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Fig. 1

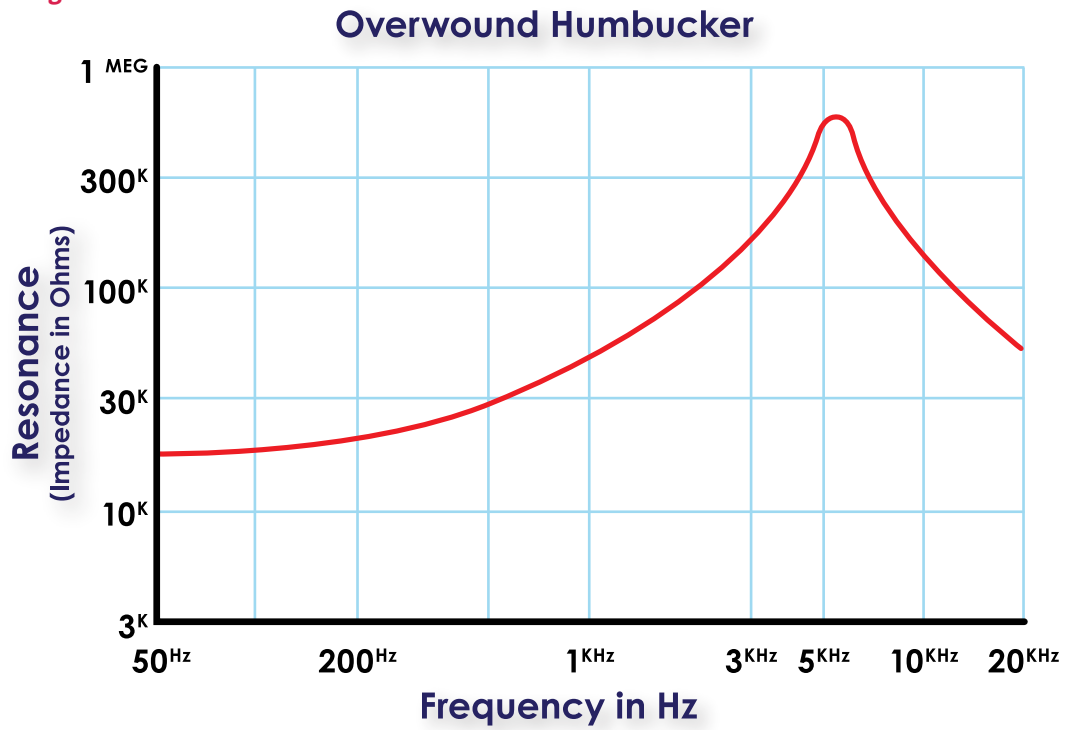
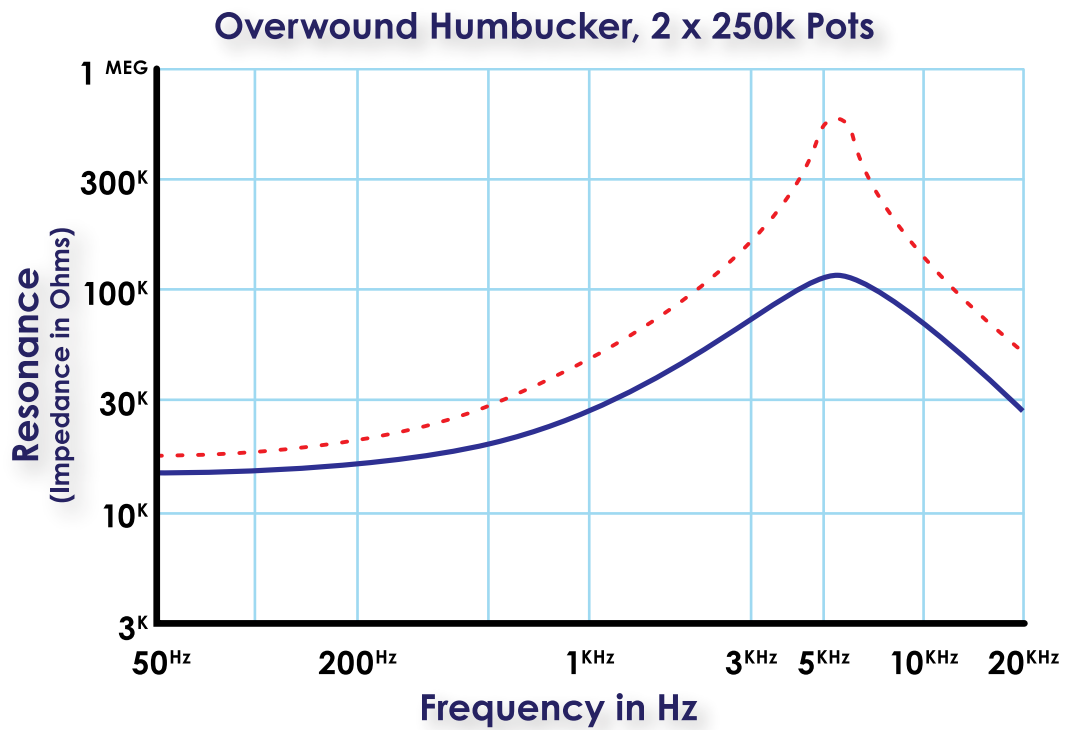


Fig. 2





response curve, and it looks something like **Fig. 1**.

The slope from the bass is usually gradual, and then it peaks sharply, falling off fairly quickly after the peak. This is why a relatively low resonant peak generally coincides with a great deal of high treble loss. That age-old pickup maker's adage—"I can make it a little hotter, but you'll lose clarity"—is true at face value. At first glance, the curve looks a little like a wah-pedal sweep, with a big boost at the peak frequency. (A pickup's resonant peak is not as pronounced as on a wah, but sometimes it helps to think of it like that.)

### Take a Peak

If you take nothing else away from this article, know that the resonant peak frequency is generally the most identifiable component of your pickup's tone. It's what makes your pickup sound like *your* pickup, and not the next hotter or weaker model in the catalog. But your pickup probably wasn't designed to be heard straight into the amp without any pots in line. The peak in the image above is very sharp. Here's what that same pickup looks like with potentiometers attached to it (**Fig. 2**).

Notice how the resonant peak is flattened. It hasn't gotten bassier—you've just decreased the intensity of that resonant peak, which causes the sound to be a bit more homogenized. As we continue to increase the loading, passive pickups begin to sound more and more like each other as the characteristics that differentiate them are decreased.

Since most passive pickups resonate somewhere in the high midrange and treble frequencies, we're often taught that lower-value pots "warm up" the sound and higher values brighten it, though not in the same way as a treble knob on an amp or EQ. (So don't listen to the troublemaker who says "just turn the treble knob up/down on your amp.")

### How Capacitors Contribute

Unlike potentiometers, tone capacitors lower the frequency of the pickup's resonant peak, as opposed to softening the existing peak frequency. It's easy



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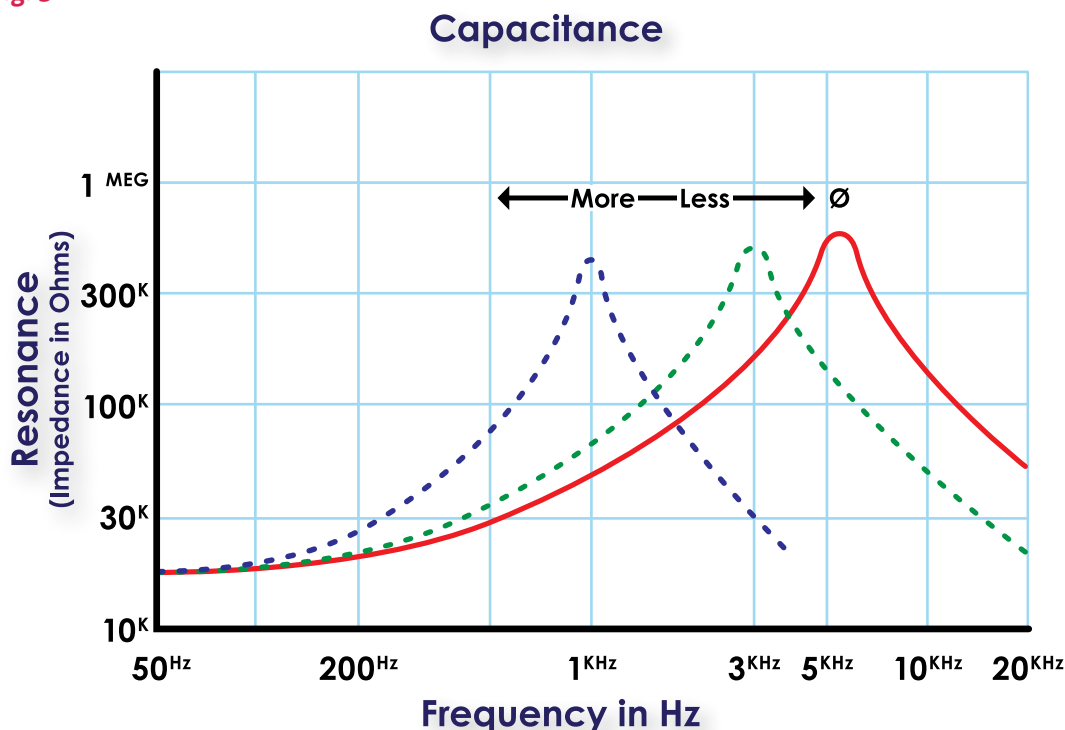
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Fig. 3



to explain tone capacitors as simply “rolling off treble.” An electrical engineer would say the capacitors combine with the resistance of the potentiometer to form a low-pass filter (that is, a filter that cuts treble).

Since the capacitors interact with the pickup’s coils, they lower the resonant peak frequency as you roll back the tone knob. Have you ever lowered your tone control to zero and felt like your guitar just got *louder*? How can that be if you’re taking frequencies away? Because the resonant peak frequency just descended into a more audible—and more energy-producing—range.

The higher the capacitor value, the lower the frequency. A larger-value cap creates a more muffled, bassy sound when rolled all the way off (Fig. 3). A smaller-value cap doesn’t lower the peak as much, and therefore leaves more treble intact. As you roll the tone knob down, your pickup “sees” more resistance and a gradual introduction of capacitance. Part of what you hear is the flattening of the

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***As you roll the tone knob down, your pickup “sees” more resistance and a gradual introduction of capacitance.***

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pickup’s peak, much like when you roll the volume control down. The more you roll back the tone pot, the more you hear the full effect of the capacitance running to ground.

#### Who Uses What?

The rule used to be “use 250k potentiometers with single-coils and 500k pots with humbuckers.” But let’s play with that notion a bit.

Old Gibsons had 250k pots, but their humbuckers were relatively low output, with low DC resistance compared to modern rock and metal humbuckers. Let’s look at a higher-output humbucker: the iconic Seymour Duncan JB, which has a

very aggressive high-midrange peak. With 500k pots it yields a screaming overdrive tone. But when Seymour himself uses one, it’s often with 250k pots, playing with his bare fingers. Wired and played this way, the pickup produces a thicker, stronger, warmer tone.

Vintage Stratocasters use 250k pots, but the vintage wiring scheme leaves the bridge pickup without a tone control. Other things being equal, the bridge-position pickup is even peakier than the neck and middle pickups. Many modern players wire a tone control to the bridge pickup, but this mellows the bridge pickup simply by being in the circuit—even if the tone control is all the



way up! If your single-coil pickups seem dull and lackluster, try stepping up to 500k pots. (Or try “no load” pots, available from Fender and other manufacturers. When these pot are turned all the way up, the pot is effectively removed from the circuit. You hear your pickups as if they were wired directly to the guitar’s output jack.)

With Telecasters, things get interesting. Most Teles use 250k pots, though some are as high as 1 Meg. Capacitor values (and circuitry) vary wildly depending on the guitar’s date, and whether Fender used the so-called “dark” Tele circuit. If you aim to use your tone control to replicate some of the dark-circuit tones, you’ll have to match those capacitor values, one of which was a hefty .1  $\mu$ F! Sometimes these caps were hard-wired into specific positions on the 3-way switch.

Instead of getting into the relative virtues of various vintage-correct wiring schemes, however, we’ll limit ourselves to sound clips of various cap values wired to a tone control in the usual way.

And how about stacked single-coils? There are many such designs, but in passive models the bottom coil always adds to the resistive load of the top coil. That’s why I usually like to use pots with values of 500k or more here. Stacked designs have already forfeited the sharp peak inherent in a true single-coil, and higher-value pots let the maximum peak get through.

#### About the Sound Clips

For all clips on [premierguitar.com](http://premierguitar.com), I connected a short cable to a buffer (a Wampler dB+) and ran from there into a 1968 Fender Showman and a Naylor 12" speaker. For the dirty clips, I added two Wampler pedals, a Plexi-Drive and a Plectortion. (This may not be your favorite tone, but it highlights the differences well.) I used the buffer to best isolate the pots and caps. Depending on the first thing in your signal path—be it a germanium fuzz, various tube amps, or even a tuner pedal—you might find that certain pots and caps change the behavior of these devices as well. Since I can’t predict all of those variables, the buffer lets us focus on what’s actually coming out of the guitar, unaffected by downstream components. There’s a semi-clean, edge-of-breakup clip followed by a dirty clip, so you can hear how the peak (or lack thereof) influences the overdriven tone.

I’ve isolated the clips that demonstrate varying pot values from those showcasing different cap values. First comes the pot-value

clip (the capacitor, a .022 $\mu$ f, is constant throughout, with the tone control always on 10). We start with no load, then 1 Meg, 500k, and 250k pots, always with the pots on 10. All the pots are ceramic Bourns 15-percent audio-taper models. The humbucker clips feature a Les Paul-style guitar with a Duncan Antiquity JB in the bridge and a Duncan Seth Lover at the neck. The

Tele-style clips employ an ash/maple Tele with a stock Fralin Tele set (with a hybrid pole stagger).

For the capacitor comparison, I’ve stuck with 500k pots so you can hear how various cap values affect the sound. The values are .047  $\mu$ F, .022  $\mu$ F, and .015  $\mu$ F (plus a bonus .0015  $\mu$ F on the Telecasters, upon Lindy’s recommendation).

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### Frank, What Do You Like Best?

I'm flattered you'd ask! I'm a huge pickup fan. I have about 50 guitars, and almost none have duplicate pickups. I like to hear the differences—the character of each pickup. Even with weak single-coils I often use 500k pots. But if you're not totally in love with the sound of your pickup(s), a 250k pot might deemphasize the characteristics you dislike, freeing you up to make different EQ choices on your amp and pedals.

### What About Combining Values?

Pot resistance stacks up. When you have a 500k volume pot and a 500k tone pot, the pickup sees the equivalent of one 250k pot. Some players deliberately choose a 250k for volume and a no-load for tone. That way, the pickup only sees a 250k load, but the player still gets their desired taper. You could choose a 500k volume and 250k tone (or vice versa) in order to get the sound between those two values when both knobs are all the way up. You can also mix values in a Les Paul-type guitar. For example, you might mellow the bridge with 250k and sharpen the neck with 500k.

I hope these sound clips help you recognize how pot and cap values affect your pickups' sound so you can make smart decisions about the best parts needed for your perfect tone. 

## What About Active Pickups?

Some players believe that pot value doesn't matter when using active pickups. True, changing pot values won't alter the resonant peak as with passive pickups, but pot choice does affect your output level. For example, with standard EMG pickups you can forfeit as much as 5 dB of output by adding volume and tone controls.

With newer active pickups like EMG-X Series or Fishman Fluence models, the output doesn't change as much when you add one or two 25k pots to the circuit. (For active pickups, 25k is the standard pot value.)

This table shows the approximate signal loss for various models when you add a pot or two.

Model	One 25k pot	Two 25k pots
Standard EMG	-2.9 dB	-5.1 dB
EMG-X or Fishman Fluence	-0.7 dB	-1.3 dB
Duncan Blackouts	-0.35 dB	-0.7 dB

Photo by Greg Marra





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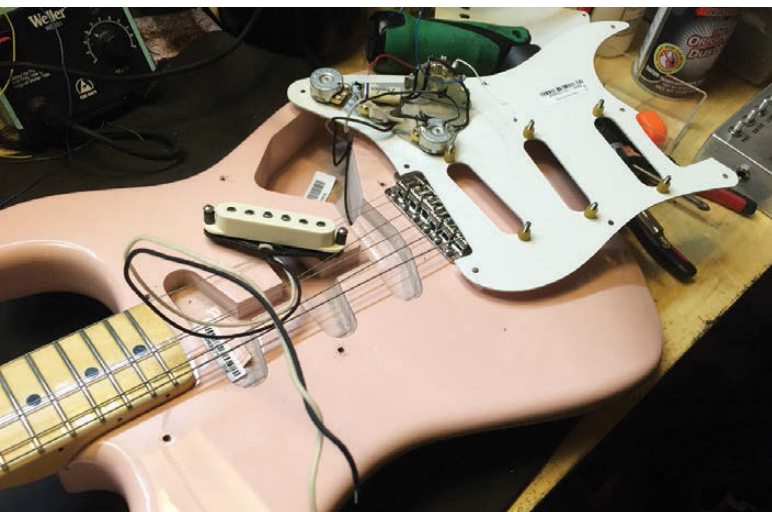
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# 5-WAY FRENZY!

*In this roundup of vintage-style Strat pickups, we test five high-end sets in a carefully calibrated Fender American Vintage '56 Stratocaster.*

BY JOE GORE



**T**he Fender Stratocaster is the most popular electric guitar of all time. So why have so many people altered the pickup design since the instrument's 1954 debut?

Many players—even Strat fanatics—have a love/hate relationship with the guitar's pickups, and pickup modifications are almost as old as the model itself. The pickups in early models employed alnico 3 magnets, but louder, brighter alnico 5s became standard within a few years. Subsequent departures include higher-output bridge pickups for fatter, less shrill lead tones, hum-cancelling designs, and non-staggered magnets to accommodate modern string tastes and flatter neck radiuses.

Still, many players swear by the original design, and for this roundup, we went the ultra-vintage route. We asked participants to submit period-correct pickup sets based on these criteria:

- Traditional materials and structure.
- Traditional number of winds.
- Alnico 5 magnets.
- Formvar-coated wire. (Formvar is the resin film that insulates the copper wire on traditional Strat pickups.)
- Staggered magnets—that is, magnets of varied height in relation to the strings, as found on vintage Strat pickups. (Whether staggered magnets are desirable for modern players is a subject in itself. See the “Is It Better to Stagger or Be Straight” sidebar.)

There really isn't much to a Strat pickup: just coated copper wire, a bobbin to wrap it around, six little magnets, and the insulated wires that link the pickup to the guitar's circuitry. Yet there's much room for variation within those narrow parameters. Extra winds of wire produce a hotter pickup. Degaussing (demagnetizing) the magnets yields a softer, smoother tone reminiscent of an old pickup. Different grades of alnico yield different tones. Even two “strictly vintage” pickups can sound quite different.

Players seeking vintage Strat pickups have many options—far more than covered here! When selecting participants, we chose companies not represented in our last major pickup roundup [“Humbucker-Sized P-90 Roundup,” February 2014], which included models from DiMarzio, Fralin, GFS, Gibson, Harmonic Design, Lollar, and Seymour Duncan. This time our lovely contestants are from Fender's Custom Shop and four smaller companies: Amalfitano, Klein, Manlius, and Mojotone.

## Spoiler Alert

Might as well say it up front: I like all five of these sets. That may sound like a timid editor scared of making enemies, but it happens to be true. Each is lovingly handmade from quality, period-correct materials. If you passed me an old Strat with any of these beneath the pickup covers and told me they were original, I'd have no reason to doubt you. I'd perform and record with any of these sets without hesitation. Every single pickup sounds authentically “old Strat,” and any of these sets would provide a major upgrade for, say, an entry-level Fender Squier Stratocaster or inexpensive Strat-style guitars from other manufacturers.

Each set looks authentically vintage, from the period-correct bobbins to the wax-coated cloth push-back wire. In fact, I don't even discuss physical appearance in the individual write-ups. Same with the workmanship—every pickup appears perfectly well made, which is why each set receives an identical build-quality rating.

Still, there are meaningful variations between models, and with luck, my observations can steer you to the model that best suits your needs and tastes. But don't expect us to declare which model sounds the “most vintage.” Like much music gear from a half-century ago, old Strat pickups are like snowflakes: No two are exactly alike.

Poor little pink guitar! This American Vintage '56 Stratocaster was torn open a half-dozen times.



**Top right:**  
All pickups were tested at equal height, thanks to the ever-useful Stew-Mac string action gauge.

**Bottom right:**  
That's a lot of Strat! This screenshot from Logic Pro shows all 36 demo clips.

## Testing Procedures

I removed as many variables as possible while testing. I auditioned and recorded every pickup in the same instrument: a shell-pink American Vintage '56 Stratocaster with a one-piece maple neck. I set pickup height according to Fender's official recommendations ( $6/64"$  on the bass side with the 6th string pressed against the 21st fret, and  $5/64"$  on the treble side with the 1st string pressed against the same fret). The test guitar has a vintage-style 7.25" fretboard radius. (Many modern Strats have flatter radii, or even compound ones, which makes a big difference in relative string volume when combined with traditional staggered-magnet pickups, as discussed in the "Is It Better to Stagger or Be Straight?" sidebar.)

You'll hear all five pickup-selector positions for all five sets. (See the online version of this article, which has embedded audio clips, at [premierguitar.com](http://premierguitar.com).) I concocted a short demo piece for each pickup-selector position and used the same music for each set. All these clips employ clean sounds because these most clearly reveal variations between models. But to paint a fuller picture (and relieve the monotony), there's also a dirty clip for each set. Here I didn't try to match performances: I just plugged into a homemade, vintage-correct Fuzz Face clone—fully cranked—and merrily wanked away. In each case, though, the distorted clip starts in position 5 (bridge pickup alone) and then switches to position 1 (neck pickup alone).

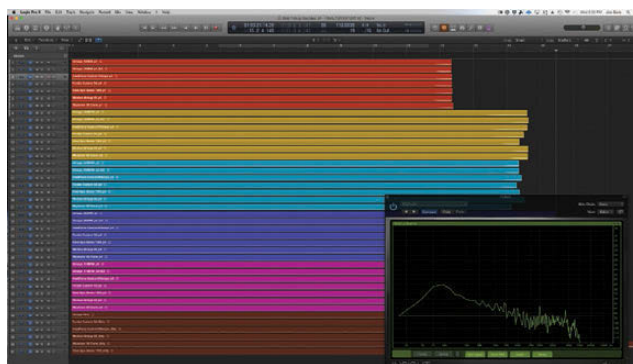
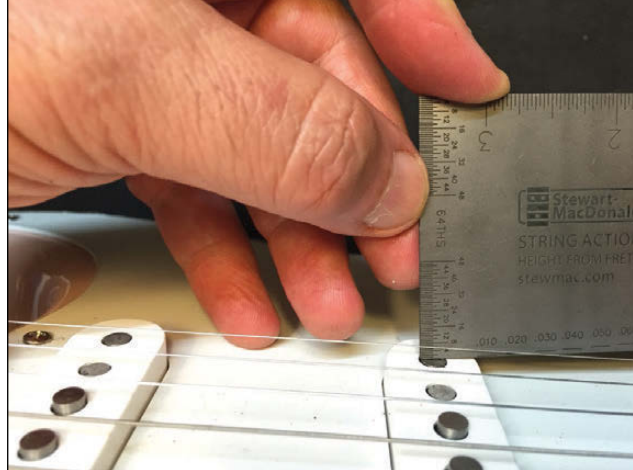
Likewise, the recording setup was identical for every pickup. I tracked all the clean clips directly into Logic Pro via a Universal Audio Apollo interface with no compression, EQ, or other effects. Input settings never varied. After all the clips were captured, I reamped each one through a Carr Skylark amp (a 12-watt, 1x12 combo amp inspired by Fender's vintage small-format amps) in a single session. All controls were at noon and never budged. The mic was a Royer R-121, a sweet-sounding ribbon model. The mic position remained constant. Meanwhile, the dirty clips were played directly into the amp without reamping, using the same setup as for the clean sounds.

String choice is a major tonal factor, especially with staggered-magnet Strat pickups. While I was tempted to go full vintage with a period-correct set of heavy-gauge flatwounds, it seemed wiser to install a roundwound set closer to what most modern players use (though I kept things a *bit* vintage with an all-nickel DR Pure Blues Nickel Heavy set gauged .011–.050).

But to illustrate how staggered-magnet pickups sound with the sort of strings they were designed for, I also recorded an all-original '63 Strat with a high-end Thomastik-Infeld flatwound set. (See the "Is It Better to Stagger or Be Straight?" sidebar.) But I didn't compare the new pickups directly to the ones in the old Strat because there are too many other variables at play: dry old wood, a rosewood fretboard, ancient hardware, worn finish, etc.

## Other Considerations

A few more things to keep in mind while comparing pickup sounds:



- While I tried to play the demo parts as consistently as possible, there's inevitably some variation between performances.
- Some sets come with pickup covers. Some don't. But it's not a big deal. If you're retrofitting a Strat, you already have usable covers. If you desire a unique look or a color that matches an antique-looking pickguard, a stock white cover won't help. Strat pickup covers are available in many colors, and they're cheap—prices range from two to four dollars per cover.
- Each pickup review includes a DC resistance value, expressed in ohms. More coil winds mean more output, a hotter pickup, and a higher DCR number. There isn't a vast range of values among the 15 tested pickups—the lowest-output one is 5.68k (that is, 5,680 ohms), while the hottest is 6.48k. Modern "overwound" Strat pickups can be far hotter: the DCR of a DiMarzio Virtual Vintage Solo is 11.17k, while the Seymour Duncan Custom Flat Strat delivers a whopping 13.3k. But even relatively small differences can be audible. We've included two sets of DCR values: the ones advertised, and the actual bench measurements. (That's not to imply that anyone is being dishonest—minor unit-to-unit variation is expected.)
- Finally, be aware that pickup makers tend to be exceedingly customer-oriented. Some small companies wind to order, and even the large ones have custom shops ready to customize on request. You might ask for higher output, a different magnet type, or staggered magnets instead of straight ones, and vice-versa.

One more thing: To audition each pickup position alongside the other reviewed models, see the "Five Pickups, Side by Side" in the online version of this article at [premierguitar.com](http://premierguitar.com).

So enough preamble. Let's hear some cool pickups!



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## AMALFITANO

### Custom/Vintage Strat Set



**Price:** \$300

**DC resistance:**

**Bridge:** 6.7k (advertised), 6.48k (measured)

**Middle:** 6.3k (advertised), 6.33k (measured)

**Neck:** 6.3 (advertised), 6.24k (measured)

Amalfitano is a perfect example of a customization-friendly shop: Jerry Amalfitano's stock vintage Strat trio, the '62 Set, employs alnico 3 magnets, as did the earliest Strats. But when we requested an alnico 5 set for review, he quickly made one, and he assures us that any customer can make similar requests. (The Custom/Vintage set heard here is the only entry in this roundup that's not a stock item.)

These are bold-sounding pickups with uncommonly powerful lows and intense upper-midrange presence. Like many Strat pickups, they can be a bit edgy when playing clean in position 1 (bridge pickup alone), but bountiful lows balance that upper-mid bite. That 2 kHz edge pays dividends in other ways: positions 2 and 4 have a gorgeous airy quality, while distorted notes maintain a crisp attack. There's nice, zingy sustain at all settings.

This is the highest-output set tested—and at \$100 per pickup, the most expensive.

[amalfitanopickups.com](http://amalfitanopickups.com)

## RATINGS

**PROS** Excellent definition clean and distorted. Hefty lows. Beautiful combined-pickup tones.

**CONS** Pricey.

Tones	★★★★★
Versatility	★★★★☆
Build/Design	★★★★☆
Value	★★★☆☆

## FENDER

### Custom Shop Custom '54



**Price:** \$199

**DC resistance:**

**Bridge:** 6.5k (advertised), 6.43k (measured)

**Middle:** 5.9k (advertised), 6.21k (measured)

**Neck:** 5.9k (advertised), 6.05k (measured)

If you averaged together every vintage Strat pickup, you might wind up with something like Fender Custom Shop's Custom '54s. They're not too bright ... not too bassy ... not too hot ... not too timid ... and not too eccentric. They're quintessentially Strat.

Tones are straightforward but attractive. Unlike some of these sets, Custom '54s have no big bass bump and no particularly prominent treble frequencies. The bridge pickup is edgy at clean settings, as you'd expect from a traditional Strat. Positions 2 and 4 are relatively muted, yet they maintain a pretty sparkle. There's no unwanted "woofiness" to the neck pickup—a scoop centered around 150 Hz keeps things clear without surrendering too many lows. Distorted lead tones are bright, but not brittle.

The Custom '54 set sounds exactly how you'd expect a solid vintage-style Strat set to sound—and that's precisely what many players desire. And at \$199 per set, they're an excellent deal.

[fendercustomshop.com](http://fendercustomshop.com)

## RATINGS

**PROS** Textbook vintage Strat tones. Great neck pickup clarity. Nice price.

**CONS** Too conventional for some?

Tones	★★★★★
Versatility	★★★★☆
Build/Design	★★★★☆
Value	★★★★☆



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\*Not recommended for vintage or "checked" instrument finishes

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[www.deltalabeffects.com](http://www.deltalabeffects.com)

## Is It Better to Stagger or Be Straight?

Many modern Strats have “straight” pickup magnets—their height is more or less equal. Meanwhile, Strat pickups from the ‘50s and ‘60s (and vintage-style replicas like the sets covered here) have magnets of uneven height. The middle pair is closest to the strings, while the 5th- and 6th-string magnets are further away. The most dramatic variation is between the 2nd- and 3rd-string magnets. The former is furthest from the string, often as low as the bobbin itself, while the latter is usually tied for tallest.

There’s a good reason for this arrangement, or at least there used to be: It provided the best volume balance between strings. But back when the Strat pickup was designed, most players used heavy flatwounds with a wound 3rd string. To illustrate how a Strat would have sounded back in the day, I recorded some clips of an

all-original 1963 model strung with big flatwounds and a wound G, and you can hear them in the online version of this roundup at [premierguitar.com](http://premierguitar.com).

I happen to dig that sound, but it’s just not how most modern players roll. Today’s guitarists favor lighter-gauge roundwounds with an unwound 3rd for easy string bending and louder, brighter tones. Also, few modern strings are pure nickel like the ones from 60 years ago (though light-gauge, pure-nickel roundwounds are available if you’re willing to pay a bit extra). Straight magnets are likelier to produce even string volume with such modern strings.

So only weirdos who love fat flatwounds should use staggered magnets, right?

Um, no. Since the mid ‘60s, countless players—everyone from Hendrix to Clapton to Gilmour—have strung staggered-magnet Strats



with light roundwound sets and unwound 3rd strings. To many listeners, the resulting tones are simply how a Strat is meant to sound. (And whether they realize it or not, good players who use this recipe are almost certainly adjusting their attack from string to string to balance levels.)

In recent years, there’s been another wrinkle: flatter fretboard radiuses. (The more inches, the flatter the fretboard: 7.25" is curvier than 10".)

A flatter neck brings the inside strings even closer to the middle magnets, and the D and G strings can be too loud. (Though again, sensitive players tend to compensate via touch.)

So what’s the best option? Duh—try both and see which you prefer! But as a crude rule of thumb, use staggered magnets if you worship the tones of the classic-rock Strat masters, but go straight if your guitar has a modern fretboard with a flatter radius.



## ARE STRAT POSITIONS 2 AND 4 OUT OF PHASE?

Try this on any guitar forum: Refer to pickup position 2 and 4 as “out of phase” and someone will promptly inform you of your ignorance. But are they right?

It depends whether you ask an electrical engineer or an acoustician. True, the two-pickup settings on a Strat are not electronically out of phase in the way that, say, Jimmy Page wired his Les Paul to provide a true out-of-phase sound. (It’s a thin, strangled tone that you probably wouldn’t use much anyway.) So the electrical engineers have a point.

On the other hand, the “hollow” timbre we associate with positions 2 and 4 is precisely due to audio phase cancellation. You get a comparable result when, say, you track an acoustic guitar with two closely placed mics: a notched, almost phasey sound stemming from some, but not all, frequencies being out of phase between one listening point and the other. The distinctive tones of positions 2 and 4 are due to *acoustic* out-of-phasesness.

So peace, man—you’re both right. (Though you hold the moral high ground for not being a jerk about it.)





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## KLEIN Epic Series 1959



**Price:** \$245

**DC resistance:**

**Bridge:** 5.8k (advertised), 5.76k (measured)

**Middle:** 6.0k (advertised), 5.86k (measured)

**Neck:** 5.9k (advertised), 5.76k (measured)

According to his website, pickup maker Christopher Klein went to phenomenal lengths to create the Epic Series 1959: “We started by buying an original 1959,” he writes, “then we destroyed that pickup and sent the magnets to an independent laboratory to have the chemical composition analyzed to find out what proportion of elements comprise that magnet.” He claims similar obsessiveness with other construction detail as well.

I have no idea whether to credit research or a great ear, but the Epic Series 1959 set is simply magnificent. You know how most vintage Fenders sound great, but some sound magical? This set can probably nudge most guitars in that magical direction.

The Epic 1559s don’t sound odd in any regard—their tones are *très* Fender. Yet they just feel a bit more musical than most Strat pickups I’ve encountered. The neck pickup has plenty of treble snap, but there are no nasty spikes and just the right amount of compression—you can dig in hard on clean bridge tones without puncturing eardrums. The neck pickup sounds warm, but never woolly. The combined settings deliver the expected “hollowness,” but with uncommon fullness of tone. There’s great sustain—everything just sings. Note fundamentals are always solid—even bright settings have heft. And when you slather on the gain, chords and single-notes maintain great balance and definition.

Interesting detail: Most modern Strat sets—boutique and otherwise—employ a slightly hotter pickup in the neck position. With ’50s and ’60s Strats, it was luck of the draw—they just dropped in pickups without scaling their relative output. In this case, the middle pickup is the hottest. Is there a lesson here?

[kleinpickups.com](http://kleinpickups.com)

## RATINGS

**PROS** Superb tones in every setting. Neck pickup is bright, but never brutal.

**CONS** None.

Tones   
Versatility   
Build/Design   
Value

## MANLIUS Vintage 62



**Price:** \$180

**DC resistance:**

**Bridge:** 6.3k (advertised), 6.25k (measured)

**Middle:** 6.2k (advertised), 6.11k (measured)

**Neck:** 6.1k (advertised), 6.15k (measured)

Vintage 62 is a traditional-sounding set boasting attractive, articulate tones. The bridge pickup has the expected spank, but with relatively even treble response and no sore-thumb spikes. The neck pickup’s voice is slightly on the dark side, but in a good way—there’s enough snap to maintain strong note attack, and it provides an especially dramatic contrast to the bridge tone. There’s lovely, acoustic-like openness in position 2 and lush warmth in position 4. Distorted sounds strike a fine balance between fat and snappy. It was a blast playing them through a vintage Fuzz Face.

The Vintage 62 is the only set here with a reverse-wound, reverse-polarity (RW/RP) middle pickup. This wasn’t a feature on vintage Strats, but many modern players favor the arrangement because it provides humbucker-style noise cancelling in the combined-pickup settings. That’s a nice feature—if you play a venue with unusually awful wiring, you can survive by favoring positions 2 and 4. Some say a RW/RP middle pickup provides more “quack,” though I don’t perceive it here. Most pickup companies offer both standard and RW/RP middle pickups. (We probably should have requested non-RW/RP pickups for consistency’s sake, but—um—I forgot.)

This is the least expensive set here. It’s a steal at \$180.

[manliusguitar.com](http://manliusguitar.com)

## RATINGS

**PROS** Excellent tonal range. Badass overdriven sounds. Great price.

**CONS** None.

Tones   
Versatility   
Build/Design   
Value



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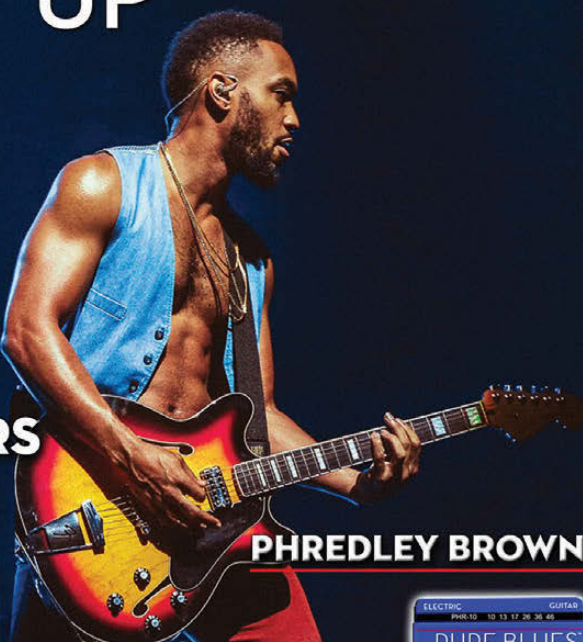
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Photo by Florent Dechard

## MOJOTONE '59 Clone



**Price:** \$212

**DC resistance:**

**Bridge:** 5.78k (advertised), 5.68k (measured)

**Middle:** 6.12k (advertised), 6.22k (measured)

**Neck:** 5.78k (advertised), 5.68k (measured)



Would you like your Strat to sound the way it did in music stores in 1959? Or would you prefer it to sound like the same guitar 56 years later? If you favor the aged sound, Mojotone's '59 Clone may be the set for you.

All the sets covered provide authentically vintage tones, but no other sounds this *old*. A pickup's tones tend to smooth out over time, largely due to weakening magnets. I have no idea whether Mojotone systematically degausses (demagnetizes) their magnets, but it sure sounds like it. Every setting is as rich, warm, and as smooth as decades-aged whiskey.

The result isn't for everyone—this is the quietest of the five sets. It's also the one with the most restrained treble attack, so it might not be the best choice if you prefer Strats that sizzle. But if you dig the mellowed warmth of a well-loved old axe, here you go! The instant I popped these into our test guitar, the instrument felt decades older. (And as on the Klein set covered above, the middle pickup, not the bridge, is the hottest. Food for thought?)

This set is a great choice if a bright Strat bridge pickup makes you flinch. Here, position 1 isn't spanky/snappy—it has more of an open, acoustic-guitar-like character. Settings 2 and 4 don't sparkle as much as on some of the other sets, but they offer lovely, burnished tones you can listen to for hours. The tones aren't dark, exactly—"rounded" and "warm" are better adjectives. Same with the distorted sounds: they're less pointy and aggressive than on the other pickups. If Strat pickups were cats, the other sets would snarl. This one purrs.

The '59 Clone set may be too restrained for some. But for those who appreciate the deep, baked-in character of old guitars, this set is the one to beat. At \$212, they're a bargain.

[mojotone.com](http://mojotone.com)

## RATINGS

**PROS** Authentically "old-sounding." Rich, nuanced tones.

**CONS** Not for those seeking snappy, aggressive tones.

Tones

Versatility

Build/Design

Value

“

**Like much music gear from a half-century ago, old Strat pickups are like snowflakes: No two are exactly alike.**

”

### Strat's All, Folks!

There are no losers here. Every time I switched sets, my gut reaction was, "Damn, that sounds good!" Listening back later to the test recordings only reinforces that impression.

There are many fine vintage-style Strat replacement pickups to choose from, and these five are but the tip of a massive iceberg. A couple of these sets are closest to my heart, but if another player had written this up, others might easily have come out on top. The colors vary, but the quality doesn't.

*Thanks to Fender's Jason Farrell for loaning us our cool test guitar.*



# Cock Fight

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# It Gets Weirder

BY BRADY SMITH

Challenge: Can you coax iconic sounds from these weirdos?

I'm sitting in an L.A. hotel room thinking about this article. I've heard the peers and legends of this weird little pedal world talk about the science behind sound, and they've got it handled. So it's the weird I want to explore. The obscure, the nearly unusable, the bizarre. The things that are out of the norm. Things that can be uncomfortable because they're unknown.

I find myself more excited and inspired by something unheard of and indescribable than the next great overdrive. Or even delay. Or even reverb. I love those things, but there has to be something new out there. Something unexplored. Something not just rehashed or reimagined. I condemn myself as much as anyone else. Good is good. I like what we've made so far. But I yearn for something ahead of its time. Something that, in the right hands, changes the sonic game. It takes the right headspace to let go of what you know works in exchange for sounds that might make you cringe. I want the cringe.

## Why Is Weird Better?

Weird is a choice. A challenge. But weird for the sake of weird misses the point. It needs to serve the greater purpose of the song. There are some artists out there who do it that way. I want to be that way.

Let's start with what may seem a universal example. I'm listening to Radiohead's *OK Computer*. A record I fell in love with at age 16. I've listened to it over and over as I've grown older. Each year, each season it means something different. Today all I can hear are the different textures. Everything pristine and in its right place. Guitar songs that use a single sound or combination of sounds for a single moment. They manage to do it over and over. The opening fuzzed-out guitar on "Airbag" ... the thinly reverberated and reverse-delayed guitars at the beginning of "Electioneering" ... the clean, bell-like guitars of "No Surprises." All the sounds have a unique character that supports the song. When *OK Computer* came out, the sounds were strange, surprising, even




polarizing. Radiohead took the risk, and it's played into their sonic wizardry ever since.

And there are some others out there. Doing the weird, making the new. Stuff that gets stuck in my head, though I haven't the words or mathematical capacity to nail it down. (Math. What a bummer. Stay in school, kids.)

Fast-forward a few days. I've returned to Eastern Standard Time after a 15-hour reprieve on the Oklahoma plains. On the flight I'm able to absorb the album *X'ed Out* by the three-piece avant-garde band Tera Melos. I'm drawn in every time by the palm-muted guitar loop on the opening track, "Weird Circles." Guitarist Nick Reinhart has this thing, freezing and stuttering notes within finger-tangled chords while the drums and bass stay locked down. It's not soloing, but controlled chaos. Swirls of noise with catchy melodies stuck in their grasp. The triumphant release of the chorus in "Bite" gives me a break from the verses' darker, slightly twisted discordance. It feels like breathing fresh air above the cloud lines. Fast picking and effects are all over the record, including the barnburner jam "Sunburn," where so much goes on at once that I re-listened four times to get it. And it's happy. At least it sounds happy. Happy, interesting, complex music. Spastic, wild, and methodical. Different and weird and good. Really good.

I started writing about the pedals Nick uses in his setup, but it doesn't fit here. There's a lot in his arsenal, and it shows throughout *X'ed Out*. Sounds don't really repeat. "Until Lufthansa" begins as a simpler, poppy track as lightly overdriven guitar evolves into cascading, palm-muted, octaved and chorused lines. And they fit perfectly. Agreeable melodies and songwriting mixed with superior technique and use of effects. It stands out as strongly as *OK Computer*, just in different "weird" ways. It just feels good to listen to.

## Where Is This Going?

Wish I knew. You tell me. I'd like to think this is encouragement for creating and listening to strange, amazing music. There's a lot of it out there. *OK Computer* in 1996 and *X'ed Out* in 2013. Both are on a forever playlist for us at the shop. Challenge your palette and your playing. Stretch your brain in whatever genre you enjoy. Make the next thing. Move it forward. 



**BRADY SMITH** is the cofounder of *Old Blood Noise Endeavors* and the *Coffee & Riffs* video series, as well as a part time guitar tech. Despite his deteriorating posture, he has a strong affinity for Jazzmasters and Aluminum necked guitars. And coffee. And sleep.

Photo by Seth McCarroll / Atria Creative



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# A Flexible Dual-Humbucker Wiring Scheme

BY DIRK WACKER

If you own a dual-humbucker guitar, here's a wiring scheme for you to consider. Designed to make your guitar more flexible, it's a mod I often perform and customers regularly request it. It applies to all H/H guitars that use a Fender-style 3-way pickup selector switch and a master volume/master tone configuration. This includes humbucker-equipped Teles, Strats, Hamers, Yamahas, and the like. However, with additional switches you can apply this mod to H/H guitars with a 3-way Gibson-style toggle, such as Les Pauls and SGs.

Most H/H guitars (that is, guitars with humbuckers in the bridge and the neck positions and no middle pickup) have Les Paul-style wiring, with the 3-way pickup selector providing these sounds:

- Position #1: bridge humbucker alone.
- Position #2: bridge and neck humbucker together in parallel.
- Position #3: neck humbucker alone.

While this traditional wiring works well for many players, others would like

to have more tones for greater flexibility, or just to have fewer guitars onstage. It's not a new idea: Companies such as PRS, Kramer, and ESP have used similar wiring for many years. This is just one more way to get more tones from an H/H guitar.

**What you need.** For this mod, both humbuckers must be four-conductor types because you'll need independent access to both coils of each pickup. If you have vintage-style humbuckers with only two wires, you can either replace them with four-conductor pickups, or convert your pickups to four-conductor specs. (If you're inexperienced in this field, leave this to a pickup maker or guitar tech.) If your humbucker sports a metal cover, it must be removed for this operation, which can also be a challenging task.

We'll also be replacing the stock 3-way switch with a 5-way switch with four switching stages rather than the standard two stages. These parts are usually referred to as "super switches." Fender part #0992251000 is a well-known open-frame version. Other companies such as Eyb and Schaller offer PCB-based versions. You can learn more about these switches and their switching matrices in "Introducing Fender's 5-Way Super Switch" and "Exploring Fender's 5-Way Super Switch" on [premierguitar.com](http://premierguitar.com). (Oddly, while we often receive requests for 3-way super switches, none are available. They're only made in 5-way configurations.)


It doesn't matter whether you use the open-frame or PCB version. I like open-frame switches because you can clearly see what's going on inside, which can make things easier. On the other hand, the open-frame version is physically larger, so the PCB type may be a better fit for some guitars. (Always check the size of the control cavity before buying such a switch.) Fender's open-frame switch requires at least 21 mm of space, and I recommend at least 25 mm to avoid problems with the soldering terminals.

**What it does.** This wiring offers the traditional pickup combinations, but adds two additional ones by splitting the humbuckers into single-coils:

- Position #1: bridge humbucker alone.
- Position #2: bridge humbucker, inner coil only.
- Position #3: bridge and neck humbucker together in parallel.
- Position #4: neck humbucker, inner coil only.
- Position #5: neck humbucker alone.

Many humbuckers don't sound like real single-coils in split mode, but at least you get a "single-coilesque" approximation.

**Wire it up.** After replacing the stock 3-way with the 5-way super switch, you'll wire it up as shown in **Fig. 1**. (Keep in mind that the diagram shows Seymour Duncan's pickup-wire color code, and that other manufacturers use different color codes.) The wiring as shown uses the inner humbucker coils for split mode, though it's easy to flip to the outer coils by moving only one wire, so try both options and decide which you prefer. You could even add a mini toggle switch to have both choices available. (Personally I don't think it makes much difference.) Remember, when you shunt one coil to ground like this, the humbuckers become "real" single-coils, and the split settings can pick up hum and noise. In a future column on H/H mods, we'll focus on preserving the humbucking operation.

That's it! Next month it's Stratocaster time—I'll show you how to get your Strat close to Ritchie Blackmore's specs. Until then, keep on modding! 

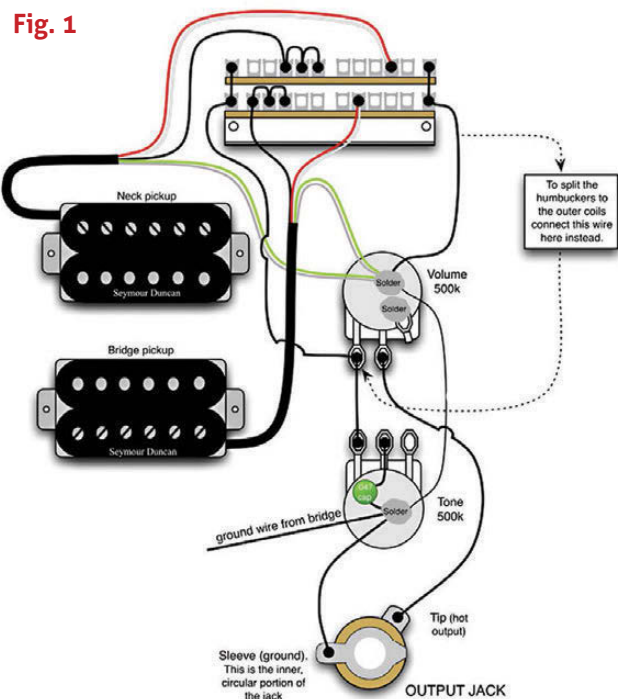


Fig. 1



**DIRK WACKER** lives in Germany and has been a guitar addict since age 5. He's also a hardcore DIY-er for guitars, amps, and stompboxes and runs a website on the subject ([singlecoil.com](http://singlecoil.com)). When not working at his guitar workbench, he plays country, rockabilly, surf, and flamenco. Contact him at [info@singlecoil.com](mailto:info@singlecoil.com).

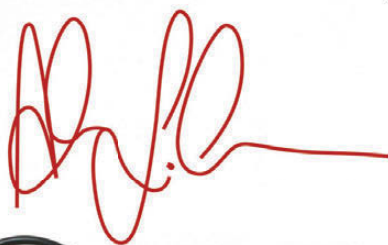
Fig. 1: Wiring diagram courtesy of Seymour Duncan



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BY ALEX LIFESON OF **RUSH**

*"I've used more amps than Dr. Frankenstein did breathing life into his creature, but the **Lerxst Chi** is an awesome monster in its own right and one of the sweetest sounding amps I've ever heard. All the great character of the Omega in a cool, compact package that you don't have to be a seven foot monster to carry around."*



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## Taming a Twin Reverb

BY JEFF BOBER

**Q:** *Jeff, I bought a 1970 Twin because it contains a pair of JBL D120s. I intended to pull out the JBLs and resell the amp with Jensens or something—a cheaper way to get these increasingly expensive speakers. I really love the amp, but there's the age-old Twin issue of too much power. Is it possible to install a smaller output transformer? Would that reduce the power, as long as the ohms matched for the four 6L6s? I hear of people doing the opposite (putting bigger OTs in Princetons and Deluxe Reverbs) but not the other way around. Do you have any insight on this?*  
**Jacob**

“These days if you walk into a room with a Twin, they make you set it up outside.”

Silverface Twins are incredibly loud, even when they *don't* have heavy, highly efficient JBL speakers.

**A:** **Hi Jacob,**  
Ah, the '70s Twin with JBLs! If you wanted to sound like the Dead back in the day, that was the amp to have. Big, loud, and clean. I can remember Terrible Ted with multiple Twins on top of multiple Dual Showman cabs, because ... well, a man's just gotta be heard!

It's a bit different now, isn't it? These days if you walk into a room with a Twin, they make you set it up outside—not to mention the JBL factor, which makes the amp even louder. But if you really need that sound, the D Series speakers are ones to have, with their 11 pounds of coveted alnico 5 magnet material. That, combined with a 4" voice coil, equals some pretty high efficiency! But therein lies the problem: You want these speakers, but the amp is too loud. Okay, rule out what would have been my first suggestion: less efficient speakers.

You mention swapping output transformers. You are correct about people doing it the other way around back in the days of the manly amp. (One famous company actually got its start turning little Princeton amps into



100-watt fire-breathers.) Power was king then, but now it makes more sense to have a larger box with fewer watts. It sounds bigger and makes it easier to push the amp into overdrive when necessary.

But back to your Twin-plus-JBL rig. You touched on your first option: removing tubes. Yes, players often pull two of the output tubes in a four-output-tube amp to reduce the output power. In most amps—Twins included—you'd remove one

tube from the right pair and one from the left. (It doesn't matter which ones, as long as it's one from each side. I prefer pulling any combination *except* the two outside tubes to create more breathing room between tubes for cooling.)

You can take this a step further by disconnecting one of the speakers. Since the load on the output transformer's primary side changes when two tubes are removed, one speaker properly balances the load on the secondary side. (Though Fender transformers seem to have withstood impedance mismatches for years and fared rather well.)

There are other non-invasive options, such as power attenuation devices. There's



### WARNING:

*All tube amplifiers contain lethal voltages. The most dangerous voltages are stored in electrolytic capacitors, even after the amp has been unplugged from the wall. Before you touch anything inside the amp chassis, it's imperative that these capacitors are discharged. If you are unsure of this procedure, consult your local amp tech.*



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For that loud, ultra-clean JBL sound, D-series speakers like these are the most desirable.



no shortage of these on the market nowadays. Just know your speakers won't be contributing to any overdriven sounds you might create.

Another option is tube-conversion adaptors such as Yellow Jackets. These substantially reduce the amp's output power via adaptors installed in the output tube sockets, allowing the use of smaller 6BQ5/EL84 tubes. That provides a substantial reduction in power, but the amp will lose that glassy 6L6 tone. (That's not necessarily a bad thing—just different. And hey, with those JBLs and their extended top end, it might actually be a good thing!)

You mention the next option: replacing the output transformer. This, of course, would go along with removing two of the output tubes. If you wish to explore this option, I suggest using an output transformer designed for something like a Fender Pro Reverb, and amp with two 6L6 tubes and a 4-ohm load. There are also aftermarket transformers designed for two 6L6s with multi-impedance output taps, which would let you run both JBLs at 4 ohms, or run only one using the 8-ohm tap.



When doing this conversion, the B+ voltage rises a bit because removing the two tubes reduces the load on the power supply. As an extra safety step, I recommend removing the 470-ohm screen grid resistors and replacing them with a 2.2k resistor to lower the screen grid voltage a bit. Be sure to re-bias the amp, since this modification will certainly change the bias.

Of course, you could always replace the speakers in the Twin, sell it, buy a

Pro Reverb, and install the JBLs, but that would be too easy. (Ha!) Anyway, I hope this helps you throttle back your Twin. 🇺🇸



**JEFF BOBER** is one of the godfathers of the low-wattage amp revolution. He co-founded and was originally the principal designer for Budda Amplification, though he launched EAST Amplification (eastamplification.com) in 2010. You can catch his podcasts at [ampsandaxescast.com](http://ampsandaxescast.com) or email him at [pgampman@gmail.com](mailto:pgampman@gmail.com).



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## PAF-Style Pickups

*Gibson's early "Patent Applied For" humbuckers are the stuff of legend. If you're chasing holy grail vintage-PAF tones, here are several affordable modern options to check out.*

**1**

### **DYLAN PICKUPS**

#### **DAF**

"Dylan Applied For" humbuckers are available in both alnico 3 and alnico 5 versions. They're wax-potted and feature 4-conductor wiring for coil-splitting and phasing options. They come in a variety of finishes. (Toaster-top and clear bobbin models shown.)

**\$299 street (set)**

[dylanpickups.com](http://dylanpickups.com)

**2**

### **SUHR**

#### **Thornbucker**

Available in a range of colors, Thornbuckers feature 4-conductor wiring and various spacings. The neck unit has an alnico 5 magnet while the bridge is alnico 4.

**\$119 street (per pickup)**

[suhr.com](http://suhr.com)

**3**

### **RIO GRANDE**

#### **Buffalo Texas Set**

The Genuine Texas bridge and Buffalo Bucker neck pickups use alnico 5 magnets, and are available with 2- or 4-conductor wiring and in a variety of colors.

**\$296 street (set as shown)**

[riograndepickups.com](http://riograndepickups.com)

**4**

### **GIBSON**

#### **BurstBuckers**

BurstBuckers are unpotted and boast vintage-style 2-conductor wiring, unmatched bobbin windings, and alnico 2 magnets. The Type 1, 2, and 3 models offer varying output levels.

**\$176 street (single)**

[gibson.com](http://gibson.com)

**5**

### **SEYMOUR DUNCAN**

#### **SH-18 Whole Lotta Humbucker**

With their 42-gauge, plain-enamel wire and rough-cast alnico 5 magnets, these humbuckers are exact replicas of the custom pickups Seymour Duncan made for the likes of Clapton, Beck, and Page in the early '70s.

**\$189 street (set)**

[seymourduncan.com](http://seymourduncan.com)







**6**

### LINDY FRALIN

#### Pure PAF

Wound at 7.5k-7.8k in the neck and 8k-8.4k in the bridge, Pure PAFs use alnico 2 magnets to soften the treble and smooth the grind. A partial-tap kit is available.

**\$260 street (set)**

[fralinpickups.com](http://fralinpickups.com)

**7**

### LOLLAR

#### Imperial

The unbalanced-coil Imperials provide airy top end, tight lows, balanced midrange, and complex overtones. The alnico 2s in the neck and alnico 5s in the bridge are degaussed to specific levels unique to each position.

**\$350 street (set)**

[lollarguitars.com](http://lollarguitars.com)

**8**

### BARE KNUCKLE

#### PG Blues

Designed to replicate the out-of-phase sound of Peter Green's '59 Les Paul, PG Blues feature sand-cast alnico 2 magnets, scatterwound bridge coils of plain-enamel 42AWG wire, and Formvar-coated wire in the neck coils.

**\$289 street (set)**

[bareknucklepickups.co.uk](http://bareknucklepickups.co.uk)

**9**

### LACE

#### Big Block

This barium-ferrite set offers tones reminiscent of classic twin-humbucker guitars from the '50s and '60s, but with the modern features like low magnetic string pull, low noise, and coil-splitting capability.

**\$195 street (set)**

[lacemusic.com](http://lacemusic.com)

**10**

### DIMARZIO

#### PAF Masters

The PAF Master Bridge (shown) has alnico 4 magnets, while the Master Neck uses alnico 5s. Both feature 4-conductor wire. Several patented DiMarzio techniques contribute to their quiet, bright, and dynamic performance.

**\$149 street (set)**

[dimarzio.com](http://dimarzio.com)

# Quick Hits


## EARTHQUAKER DEVICES

### Park Fuzz Sound

By Charles Saufley

The original Park Fuzz—a Tone Bender Mk III in all but name—is one of the most versatile Benders, though it's cloned less frequently than the Mk II. EarthQuaker Devices and Mitch Colby (who resurrected the Park amplifier brand) have revived it in an authentic-sounding, well-built, and highly adaptable pedal.

Like the original, it's less gainy and hectic than the Mk II, but at its highest gain levels, the new version has a bit more sizzle than an original. The AC125 germanium transistors enable good fuzzy-to-clean dynamic control via guitar-volume attenuation, though it's most effective when fuzz is near its max (otherwise it yields spittier “clean” tones).

Like many germanium fuzzes, the Park is most colorful when the fuzz and volume are wide-open. At these settings the rangy tone control makes the pedal capable of fatter, doomier voices than a Mk II without sacrificing that '60s buzz. For players that love the Mk II's heat but find it one-dimensional, the EarthQuaker Devices Park Fuzz is a cool and often surprising alternative. 



**TEST GEAR** *Fender Jaguar, Fender Telecaster Custom, silverface Fender Bassman, blackface Fender Tremolux*

#### RATINGS

\$175 street,  
[earthquakerdevices.com](http://earthquakerdevices.com)

Tones	
Ease of Use	
Build/Design	
Value	

**PROS** Great '60s-style germanium fuzz tones with a little extra gain and range. Effective tone control. Colorful overtones.

**CONS** Fuzzy-to-clean volume control dynamics limited at all but the highest gain levels.

**CLICK HERE TO HEAR** *this pedal at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)*

## MXR


### M238 ISO Brick

By Charles Saufley



Discussing power supplies is about as diverting as watching shower mold spread. But the pedal-powering possibilities of MXR's versatile and powerful new M238 ISO Brick make the issue much more fun to think about.

To start, it makes pedalboard layout easy. The recessed, right-angled barrel connector means there's no DC cord hogging space. There are 10 outputs, each fully isolated to eliminate noise. (Yes, this unit is very quiet) Two 9V 450 mA outputs accommodate most power-hungry DSP-type pedals. There are also two 100mA outputs, two 300mA 9V outputs, and two 18V 250mA outputs—plus a real treat: two 6-18V variable voltage outputs for approximating voltage sag or increasing headroom. Each output also has an LED that glows blue when you've got a proper connection.

The inclusion of adaptors for UK/EU/Australian power and the fact that the ISO Brick makes voltage conversion a no-worry proposition are significant bonuses. I used it for shows in the US, UK, and Europe, and setup was as simple as clipping on the appropriate attachment and plugging in—priceless convenience from a power supply brimming with stress-reducing features. 

**TEST GEAR** *Boss DD-5, TR-2, and CS-3, Strymon Flint, Stomp Under Foot Civil War, Electro-Harmonix Pedal Bag*

#### RATINGS

\$149 street, [jimdunlop.com](http://jimdunlop.com)

Ease of Use	
Build/Design	
Value	

**PROS** Compact layout. Multiple voltages (including two variable outputs). Quick-change adapters for globe-trotting guitarists.

**CONS** None.



# ULTIMATE EARS

## UE 7 In-Ear Monitors

By Jason Shadrick



Arguably, the most important aspect of being comfortable onstage is hearing each instrument clearly. For some, a well-adjusted wedge could do the trick, but the post-gig annoyance of ringing ears could cause long-term hearing problems. The UE 7s are Ultimate Ears' solution. They're aimed at guitarists who need to protect their ears and hear bandmates who might be hard to distinguish in a loud, muddy stage mix.

Each set is custom-molded (thanks to a quick visit to a local audiologist). They're immensely comfortable, even after a four-hour gig. Once the mix was dialed in, the UE 7s offered impressive bass response, thanks to a 2-channel setup and built-in crossover.

I doubt any IEM can perfectly replicate a guitar's tone, but I found the UE 7's midrange and high-end impressively robust and accurate—perfect for where the guitar sits in the mix. Admittedly, the price tag may be steep for weekend warriors, but for pro players needing tour-ready IEMs, these might be the best sub-1K solution out there. **PG**

### RATINGS

\$850 street, [ultimateears.com](http://ultimateears.com)

Tones	★★★★
Versatility	★★★★
Build/Design	★★★★
Value	★★★★

**PROS** Comfortable. Plenty of bass and midrange response.

**CONS** Pricy.

# MAXON

## BD10 Hybrid Bass Driver

By Rich Osweiler



Maxon's BD10 is a bass overdrive derived from the company's OD808 guitar overdrive. The compact pedal features individual bass and treble controls, a drive control, plus independent controls for the drive and clean levels for precise tweaking. It runs on a 9V battery or standard AC adaptor (not included).

The BD10 covers much tonal territory, but if you're looking for balls-to-the-wall distortion, this isn't the place. The BD10 is more about sweet, warm, natural-sounding overdrive. I started with the low and high knobs at 3 o'clock and noon, respectively, and set the drive knob to 1 o'clock and the two level controls to noon. The smooth, beefy, and tube-like tones had just the right amount of dirt and boost to let me pretend I was Roger Glover, while cranking the drive knobs past 3 o'clock yielded thicker, Fu Manchu-style distortion. No matter the settings, I was impressed by the touch sensitivity, clarity, sustain, and naturalistic sound while enjoying how the low end remains intact.

There are many bass overdrives to choose from, and plenty for a lot less coin. But when you consider the BD10's excellent tones and remarkable tweakability, this little white box is well worth a look. **PG**

**TEST GEAR** *Gallien-Krueger 800RB head, TC Electronic RS410 cab, 2001 Fender Precision*

### RATINGS

\$169 street, [maxonfx.com](http://maxonfx.com)

Tones	★★★★
Ease of Use	★★★★
Build/Design	★★★★
Value	★★★★

**PROS** Independent clean and drive levels. Two-band tone control. Natural-sounding overdrive with solid lows.

**CONS** Pricier than some of its brethren.

**CLICK HERE TO HEAR** [this pedal at premierguitar.com/nov2015](http://this.pedal.at/premierguitar.com/nov2015)



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THEN OUT THROUGH A PA. IT HAS  
SUCH A BEAUTIFUL TONE."



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BIGWRECKMUSIC.COM

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# PEAVEY

## 6505 MH



By Joe Charupakorn

**M**ini amps and micro heads are a familiar sight these days. They're even numerous enough that a shadowy (but very loud) subculture of high-gain micro metal amps has risen from the clutter. Peavey's 6505 MH is one of the newest members of the "baby metal amp" tribe. This scalable, 20-watt, two-channel, dual-EL84 take on one of Peavey's most iconic amps is a brutish little beast. And new features extend its utility beyond bedroom shredding sessions and into the realm of real-world recording and gigging.

### Blood Brothers

If you've used a 6505 before, the MH's layout should be familiar: channel select button, independent pre-gain and post-gain control knobs for both rhythm and lead channels (with

bright and crunch buttons for the rhythm channel), reverb knob, and power amp resonance and presence control knobs. There are important differences, however. Unlike its relatively behemoth big bro', the 6505 MH has a shared EQ section for both channels.

Completely new features include two tube status indicator lights situated directly above the standby and power buttons. If the light is green, all is good. If the light is red, the amp is running at less than optimal current and in need of re-bias. There's also an auto reset feature that takes that tube out of the circuit so you can continue playing without damaging the amp.

The rear panel reveals more new features that you won't see on the classic 6505: a voltage switch that lets you select between 20-watt, 5-watt, and 1-watt operation, a





Attenuator switch

USB output

cabinet-and-mic-emulating direct output, and a USB output for direct recording. There are also buttons for speaker enable/defeat and ground lift, as well as a headphone jack.

### Bedroom to Brown to Brutal

It's no secret that the 6505 was born as Eddie Van Halen's 5150, so for this test, I pulled out an old Peavey Wolfgang Standard and ran it straight into the amp, which I plugged into 4x12 and 1x12 cabinets, each equipped with Celestion Vintage 30 speakers.

I started my test with the 1-watt setting on the rhythm channel. Though this is ostensibly the amp's clean channel, the 1-watt setting is fairly dirty with the pre-gain above two. Sometimes when amp manufacturers tout low-wattage amps as "bedroom-level," they're actually considerably louder. The 6505 MH's rhythm channel, however, really offers useable bedroom volume levels up to about 7 on the post-gain knob.

Things got louder when I changed to the lead channel in 1-watt mode. The amp barks pretty fiercely all the way back to around 2 on the post-gain knob. Move it to the midway point and the amp becomes rabid. The sustain at this midpoint setting struck me more than once as mind-blowing for a little amp, and for lead playing, the fundamental sound is open, uncompressed, and well suited for fast, white-hot shredding. For

rhythm parts, muted, single-note figures on the low strings can be articulated with razor-like precision.

### Too Dirty to Be Clean

There's not a huge range of low-gain sounds available from the lead channel, but if you roll your guitar's volume knob way back, you can get part of the way there. For less aggressive overdriven sounds, I got better results by using the rhythm channel's crunch mode, which offers terrific low-to-mid gain sounds. With the pre-gain knob at about 5, you get a hint of dirt. At 6 and beyond, a distinct shift to the dirty side of the spectrum takes place—perfect for stinging blues-rock leads.

In 5-watt and 20-watt settings, the rhythm channel gives you much more clean headroom. On the lead channel, though, you leave "don't disturb the neighbors" territory behind and escalate to gig-level volumes. Don't be fooled by the amp's diminutive size: The 6505 MH can reach ear-frying levels.

### Throw Away Them Modelers, Son

The 6505 is often emulated in modeling amps. But Peavey added a USB output that might win back a few modeling converts. If you connect directly to a digital workstation, you get pure, unadulterated 6505 tones. To be honest, the purist in me was a little weirded out by the presence of a USB jack on an

amp so rooted in a classic. Ultimately, though, its practicality outweighed any sentimental bias.

I ran the 6505 MH into my MacBook Pro through GarageBand, and the amp automatically appeared as an input device. No drivers were necessary—a major plus! With the built-in speaker defeat button engaged, I was able to crank the amp and record vicious tones late at night in the comfort of my room. For fans of 6505 tones who lack access to a soundproof space, it's a killer way to capture the amp's essence at any hour.

### The Verdict

If you're a fan of the 6505, this little demon merits a serious look. Its many output options and wide range of power configurations make it a super-practical and flexible choice for rehearsing, recording, and just about any gig where you won't be fighting another guitarist with a 200-watt stack. The amp's compact size and light weight means you can easily take this little tone machine anywhere you go. And at \$499, this micro metal monster is a steal. **PG**



**CLICK HERE TO HEAR** this amp at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)

## RATINGS

Peavey 6505 MH,

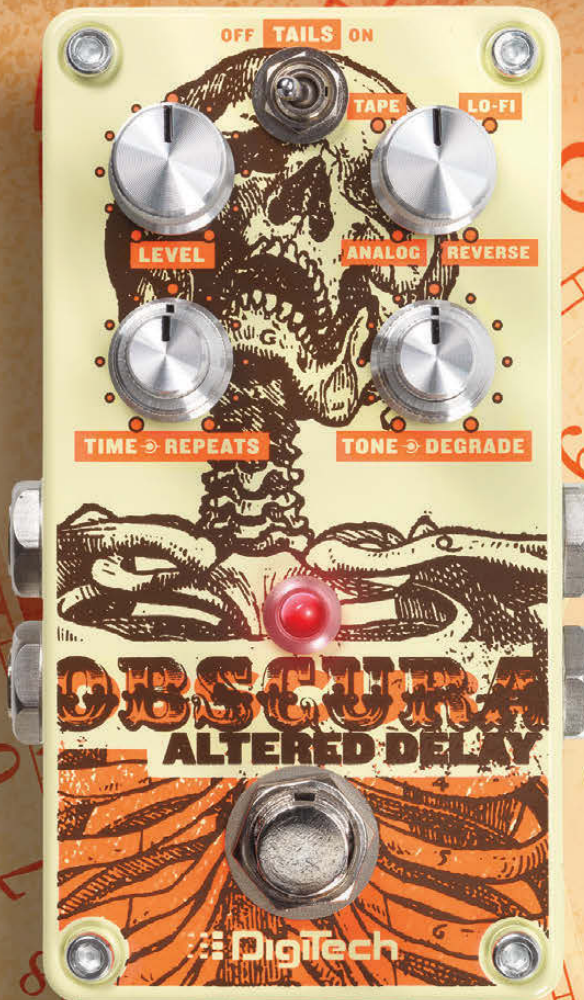
\$499 street  
[peavey.com](http://peavey.com)

Tones	★★★★
Ease of Use	★★★★
Build/Design	★★★★
Value	★★★★

**PROS** Killer tones and functionality in a self-contained, flexible, and portable package.

**CONS** Shared EQ section.





# DESTROY TIME

Destroy time with the Obscura Altered Delay from DigiTech. Its four delay modes can be darkened, degraded, and distorted on the fly with the stacked Tone and Degrade controls. Combine these controls with Repeat/Hold and lose yourself in long trippy, gurgling repeats or manipulated backwards sonic mayhem. Obscura also has excellent sounding Analog, Tape, Lo-Fi, and tap tempo modes with beat divisions, stereo in/out, tails switch, and true bypass.





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# CATALINBREAD

## Fuzzrite

By Charles Saufley

The original Mosrite Fuzzrite has always lurked in the shadowy recesses of the classic fuzz temple. To most ears, it's not as flexible as a Fuzz Face, as meaty as a Muff, or as detailed and defined as a Tone Bender. These perceived shortcomings have mostly relegated the Fuzzrite to worship by the garage punk and biker fuzz cults (and even among these sects, divisions over the merits of germanium and silicon versions persist). But all dogma, bias, and historical slights aside, a good Fuzzrite is a way-cool and super-spirited stomp overflowing with personality.

Catalinbread's new Fuzzrite (they recently secured the rights to this legendary name) is a take on the silicon version of the circuit that first appeared in the late '60s. And though it might not appeal to germanium Fuzzrite fans or super-obsessive '60s sonic purists, it's a fat, substantial, and buzzing fuzz that occupies a hard-to-nail sonic niche where '60s sizzle and modern heaviness meet.

### Built Like a Buzzing Brick

Catalinbread pedals tend to be superlatively built, and on the Fuzzrite you don't have to look hard to find evidence of this quality. You can't see the transistors, capacitors, and resistors because the circuit board is mounted with those components facing the enclosure's interior. But like any Fuzzrite circuit, it's a simple affair. And apart from the two transistors at the heart of the circuit, there probably aren't more than a dozen additional components on the board.

Foreseeing, perhaps, the potentially rowdy environments in which the pedal might be put to work, Catalinbread made sure the guts are locked down tight as submarine latches on this beautifully robust box. The two knurled knobs are easy to grip with the toe of your sneaker if you want to nudge the fuzz or volume on the fly. But they provide the perfect amount of resistance for doing so, and are unlikely to be bumped out of whack once you've set them where you want them.

### In a Fuzz Kind of Eden

Silicon Fuzzrites tend to respond to chords in a cool and unique way. The Catalinbread gets especially high marks on this count, injecting power chords with throaty, muscle car mass topped with just the right amount of '60s rasp. The Catalinbread's marriage of vintage and meatier, contemporary fuzz personalities pay big dividends in this chordal context.



Probably one of the biggest obstacles to a wider acceptance of the original silicon Fuzzrite was its inorganic pick attack. Where a germanium Fuzz Face—or Tone Bender in particular—tend to communicate the interface between string and pick in a relatively transparent way, a Fuzzrite sounds more like fuzz floodgates opening and slamming shut. That hasn't changed profoundly on this Fuzzrite, but by highlighting pick attack and adding definition about as well as a silicon Fuzzrite circuit can, the Catalinbread proves itself exceptionally responsive for the breed. Fast flurries of fuzz-fried licks sound a lot airier and detailed as a result.


The sometimes binary attack of the Catalinbread Fuzzrite makes it a great match for amps with a bit of natural compression. It loved my blackface Tremolux and a silverface Champ—even a much less squishy blackface spec'd Bassman sounded smooth, contoured, and dynamic with the Fuzzrite torturing the front end. It's easy to imagine how the Fuzzrite's scathing top and a squishy Fender tweed circuit would add up to bliss. And the Fuzzrite's happy relationship with small amps makes it a fantastic studio tool for generating hairy vintage fuzz tone that doesn't feel out of control.

Guitar volume-control responsiveness? Well, there's not a lot—at least if you're looking for Fuzz Face-style fuzzy-to-clean dynamics. Reducing guitar volume can re-color the fuzz in interesting ways, however, and you can enhance the cool, sputtery gated-fuzz effects by setting the depth (gain) control to lower levels.

In general, the Fuzzrite sounds happiest with the fuzz at or near its maximum level.

That said, the volume control has a wide, effective range, and some of the coolest and most authentically '60s-sounding tones come at very low pedal volumes, a trait that further bolsters the Fuzzrite's utility in the studio.

### The Verdict

Bold, brawny, and buzzy as a pissed-off wasp, the Catalinbread Fuzzrite is the rare fuzz that might appease paisley and Chelsea-booted fuzz purists, as well as players who think they love '60s fuzz but really need a touch of modern silicon muscularity. There might be slightly more affordable and authentic takes on the Fuzzrite circuit, and some vintage-fixated players will certainly find the Catalinbread's relative smoothness a bit too civilized for their garage punk needs. But few Fuzzrite clones out there are built to the exacting tolerances or offer the battle-ready robustness of this little unit. And for many players who are discovering the joys of this menacing and monstrous circuit, the sounds on tap will be a revelation. 



**CLICK HERE TO HEAR** this pedal at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)

## RATINGS

### Catalinbread Fuzzrite

\$149 street  
[catalinbread.com](http://catalinbread.com)

Tones 

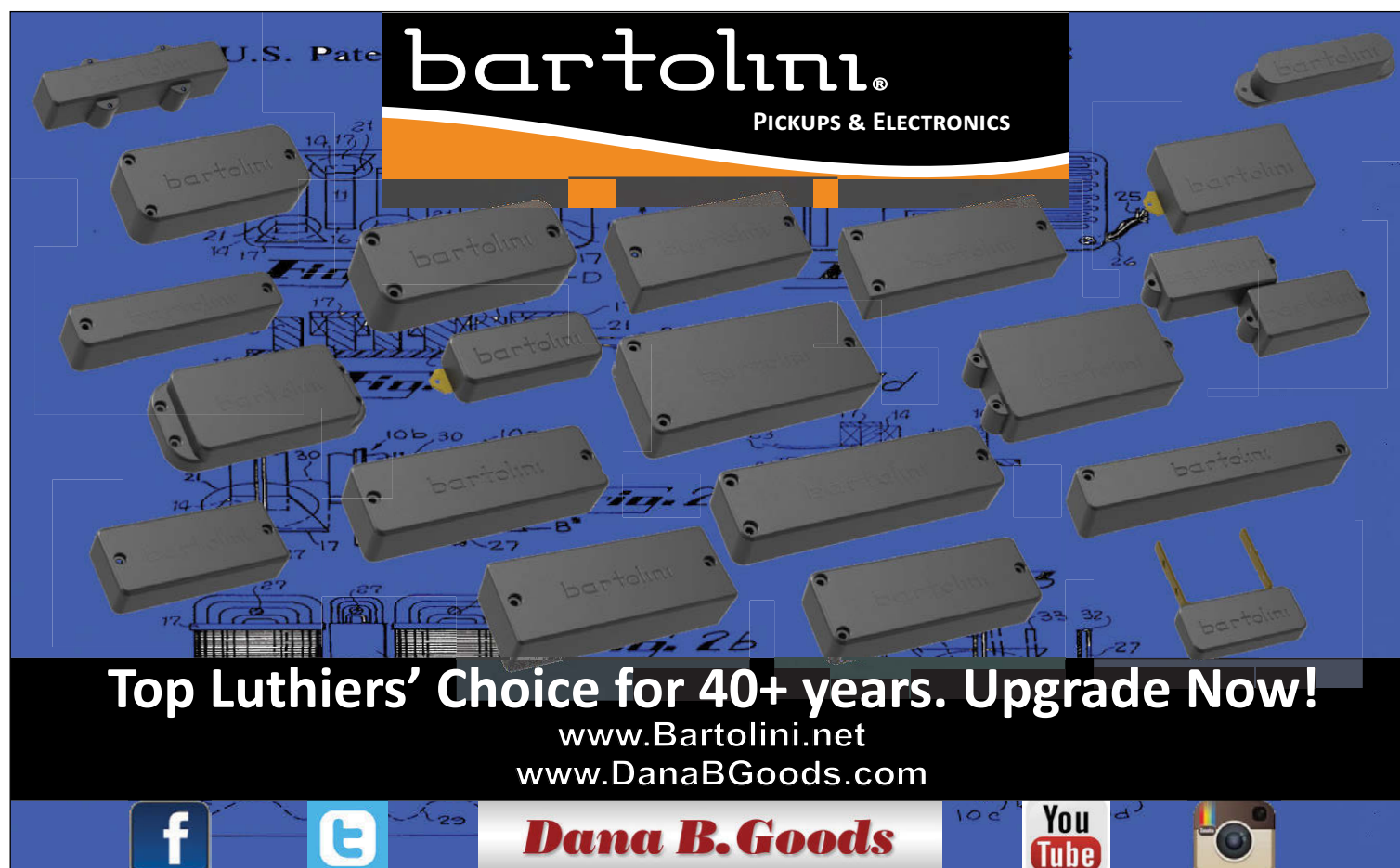
Ease of Use 

Build/Design 

Value 





**PROS** Cool mixture of contemporary fat silicon fuzz tones and sizzling '60s sounds. Superlative build quality.

**CONS** Not very responsive to guitar volume changes. Lacks some seat-of-the-pants character of '60s fuzzes.



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  **Dana B. Goods**  



# HAMMER OF THE GODS



**Lean and mean,** ENGL's new E651 Artist Edition amp bears the fingerprints of some of the world's most legendary guitarists. The E651 traces its lineage to the 1996 E650 Ritchie Blackmore Signature head – an iconic thoroughbred that offered simple handling and maximum performance. In 2005, ENGL collaborated with Doug Aldrich to create a specially-engineered amp based on the E650. In the following years, guitar icons like Vivian Campbell, Scott Gorham, Ken Hammer and Paul Stanley were all smitten by modified versions of the E650. But until today, only an elite group of superstars had experienced these ultra-exclusive gems firsthand.

**ENGL** has finally unleashed the beast. Powered by four EL34s, the new E651 delivers 100 watts of pure sonic bliss...a responsive, aggressive tone that has captivated the legends. Now it's your turn: join the pantheon of players who have grabbed an ENGL. Raise your game and swing mightily.



# PURESALEM

## El Gordo

By David Von Bader

**S**acrilegious as it may sound to some, not everyone loves the iconic, ubiquitous electric guitar designs of the 1950s. And while vintage guitars that subvert those norms look killer and cut through the visual clutter, they can also be quirky in less-desirable ways: feedback-prone pickups, neck relief like a ski jump, and non-existent tuning stability, to name a few.

PureSalem Guitars isn't the only company mining the eccentric side of vintage guitar design these days. But the two-years-young company has consistently delivered quality alongside the quirkiness. El Gordo, a buxom semi-hollow, is a recent addition to PureSalem's roster of misfits. It's well built, genuinely versatile, and chock-full of tones from jangly clean to rowdy and raucous.

### A Sumo of Its Parts

The Gordo is a creative bit of Franken-design that manages to be different without being simply weird. The mahogany body profile borrows from '60s-era Kents. The classy flame-maple veneer and two-tone sunburst finish add rich visual texture without being ostentatious. A pair of sharp-looking bound eyeholes is a nod to Rickenbacker and Gretsch, while the binding evokes 335 and Les Paul Custom designs. The mahogany neck has a comfortable, modern C-shape. It's capped by a bound rosewood fingerboard with fancy pearloid block markers and a sculpted headstock design inspired by the Fender Starcaster. The neck is reinforced with a double truss rod for stability and setup flexibility.





On paper, that sounds like an odd hodgepodge of design elements. But somehow the juxtaposition of upscale details, cross-brand homage, and quirky retro shapes works, resulting in a unique but approachable instrument.

El Gordo generally feels sturdy and substantial. It's free of the blemishes and paint blotches often seen on guitars in this price range. And while the factory setup wasn't exceptional, a few easy adjustments made El Gordo feel friendlier under the fingers.

### Functional Kitsch

With its bend-friendly 24.75" scale length, satin neck finish, and 12" fretboard radius, El Gordo feels much more athletic and nimble than most of the vintage instruments that inspired it. The roller bridge, expertly cut graphite nut, and mini-Grover tuners maintain tuning stability, even when you cut loose on the Bigsby. (And *man*, it's fun to use a Bigsby that stays in tune.)

El Gordo features a Gibson-style 3-way pickup selector and independent volume and tone controls for each pickup. That adds up to many tone options if you like to play with pickup balance or color songs with extreme tone shifts (which can be especially interesting given the sonic differences between the two pickups). The cloth wiring visible

through the soundhole is a nice retro touch. But the knobs would be easier to manipulate if they were just a bit closer to the player—fast volume adjustment can feel like a serious reach.

### Gordo Means Fat

The bridge humbucker and Telecaster-style neck single-coil (angled, unusually, toward the bridge's bass side) provide everything from percussive rock crunch to fluty blues leads. The articulate humbucker has just a tad more power than your typical PAF, but it's never muddy, honky, or flat-sounding. Likewise, the neck pickup seems hotter than your average T-Style pickup, but the result is excellent balance between the two pickups.

El Gordo's semi-hollow, center-block construction lends thwacking immediacy and chunky mass to chords, but also gives clean tones resonance and a pretty, sparkling airiness. With a loud, dirty amp, El Gordo's easily generates controllable feedback, especially if you ride the volume and tone knobs.

While El Gordo can be jangly and clean, it specializes in burly rock 'n' roll sounds. Josh Homme fans will love the humbucker's thick stoner heaviness at low tone settings. It's also great at mimicking the powerful *kerrang* of Malcolm Young's Gretsch, or sustained, fuzzy lead textures.

### The Verdict

El Gordo is a playable, and yes, *fat*-sounding way to skirt the status quo. It looks vintage in a unique way without seeming silly. Best of all, it's a genuine player's instrument. The interestingly matched pickups, effective tone and volume controls, and stable Bigsby vibrato conspire to make this a very expressive instrument. Quirky has rarely felt this rock-solid, or been capable of so many tasty sounds. **TC**

 **CLICK HERE TO WATCH A DEMO** of this guitar at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)

## RATINGS

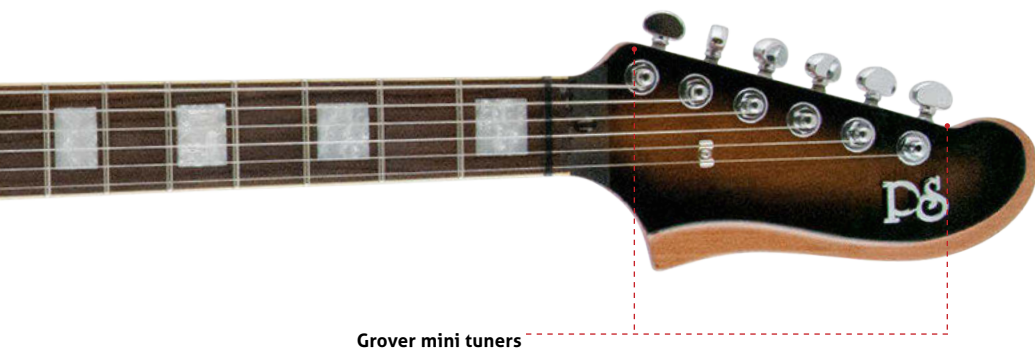
### PureSalem Gordo

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[puresalemguitars.com](http://puresalemguitars.com)

Tones	
Playability	
Build/Design	
Value	

**PROS** Unique styling. Great, often unusual tones. Excellent playability. Vibrato stays in tune.

**CONS** Controls are a bit of a reach.



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# MISSION ENGINEERING

## Delta III Si

By Matthew Holliman

A pedal capable of distortion, boost, and fuzz isn't revolutionary. But considering how many of us string together endless combinations of those three pedal types on our boards, a streamlined approach is always intriguing. Mission Engineering's Delta III Si isn't a three-in-one box with independent fuzz and overdrive circuits cascading into each other, Mission Engineering created a three-transistor analog dirt unit that can go from transparent boost to ballsy vintage fuzz with the twist of the gain knob. (The pedal employs silicon transistors, though Delta also offers a germanium version.)

**I got a gritty, honky Les Paul drawl. Played with a slide, it was a straight shot of Duane Allman bliss.**

### Delta, This Is Mission Control

You control the Delta III Si via four knobs. The lo cut and hi cut controls trim bass and treble, respectively. Level is a master volume control. And the gain is the key to the Delta III's varied personality. It moves from boost to overdrive to full-throttle fuzz across its range. The footswitch is a quiet soft-touch relay.

The lightweight, brushed-aluminum enclosure houses two printed circuit boards. There's no 9V battery option, though the Delta III Si can be powered with 7.5- to 18V power supplies for the option of varied headroom. The Delta III works best with a dedicated power supply. With a daisy-chain supply, the Delta can generate a wall of locust chatter when the effect is engaged. But with the right power arrangement the Delta is extremely quiet at all but the most extreme gain settings.



### Call in the Firepower

Mission Engineering touts the Delta III's "friendliness" with other pedals. As with many fuzz pedals, my first inclination was to place it early in my signal chain, but I got the best results when I placed it after an overdrive (an Amptweaker Tight Drive Pro). The overdrive excited Delta III's crunchy output rather than adding stifling compression.

With my Telecaster and the Delta III's gain at 11 o'clock, I got Tube Screamer-like overdrive right at the cusp of crunch—an excellent setting for pushing a saturated amp over the edge.

Note clarity is exceptional, and the pedal responds dynamically to changes in picking intensity. Digging in deep gives a blistering, amp overdrive-like edge. A lighter touch adds sparkling highlights and high-mid detail to chords and slower leads. However, that extra note definition means that trebly guitars can sound super bright. That's when the hi cut knob becomes invaluable. Setting it around 1 o'clock left plenty of room for my Telecaster's top end to breathe, but kept shrieking feedback at bay when I stacked on extra gain.


With a Gibson Les Paul and an 18V adaptor, I checked out the available headroom. The higher voltage seemed to expand the tonal range of the darker humbuckers. The extra headroom meant more definition at high-gain settings. With gain at 3 o'clock and lo cut around 11 o'clock, I got a gritty, honky Les Paul drawl. Played with a slide, it was a straight shot of Duane Allman bliss. Decreasing lo cut at high gain settings really fills out the bottom end—a cool tone option for

the pedal's fuzzier realms. And while the pedal doesn't quite nail the brawn and sustain of a Big Muff, it's still perfect for chunky '70s hard rock power chords and stoner rock grind. You can readily move from fuzzier zones to civilized overdrive by trimming the guitar's output. (This feels especially responsive with single-coils.)

### The Verdict

The Delta III is a versatile dirt box that can wear many disguises. It's a cool choice if you need one pedal to produce boost, overdrive and distortion tones, especially for travelling players requiring streamlined setups. It's transparent enough to add definition and oomph to dirty amps without turning your tone into a saturated blur.

For some players, the lack of switching options may limit the Delta III's onstage usefulness. But the pedal excels as a boost/distortion/overdrive you can quickly and intuitively tailor to suit varying guitars and amps. Given how

readily it delivers everything from smooth crooning to fire and brimstone, the \$199 street price is fair. 



**CLICK HERE TO HEAR** this pedal at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)

## RATINGS

**Mission Engineering**  
**Delta III Si Triage Distortion**  
\$199 street  
[missionengineering.com](http://missionengineering.com)

Tones	
Ease of Use	
Build/Design	
Value	

**PROS** Wide ranging tones and easy access to them.

**CONS** No battery option. Daisy-chain power supplies are a no-no.



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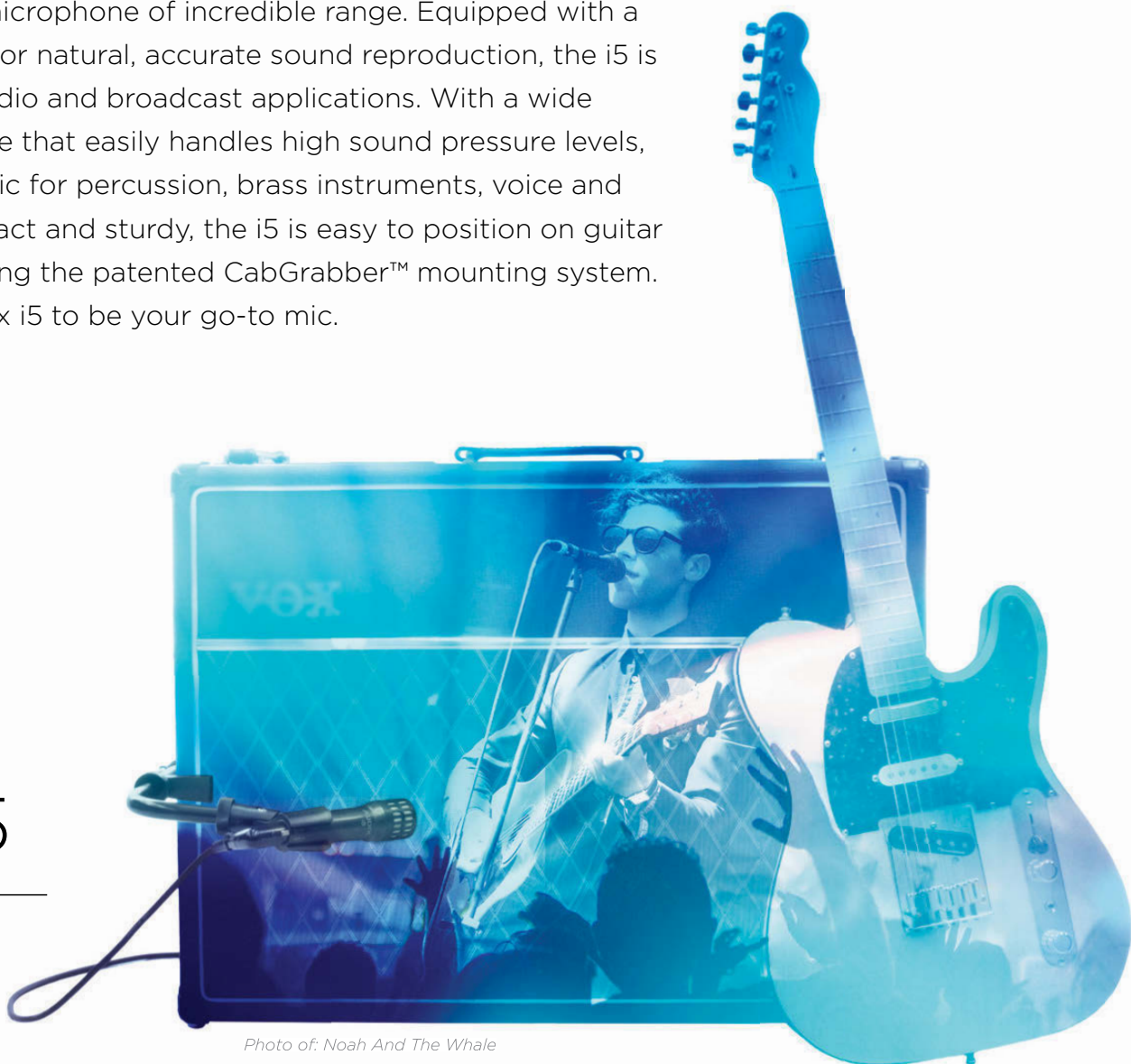


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*Photo of: Noah And The Whale*

# MICHAEL KELLY

## Triad 10E

By Adam Perlmutter

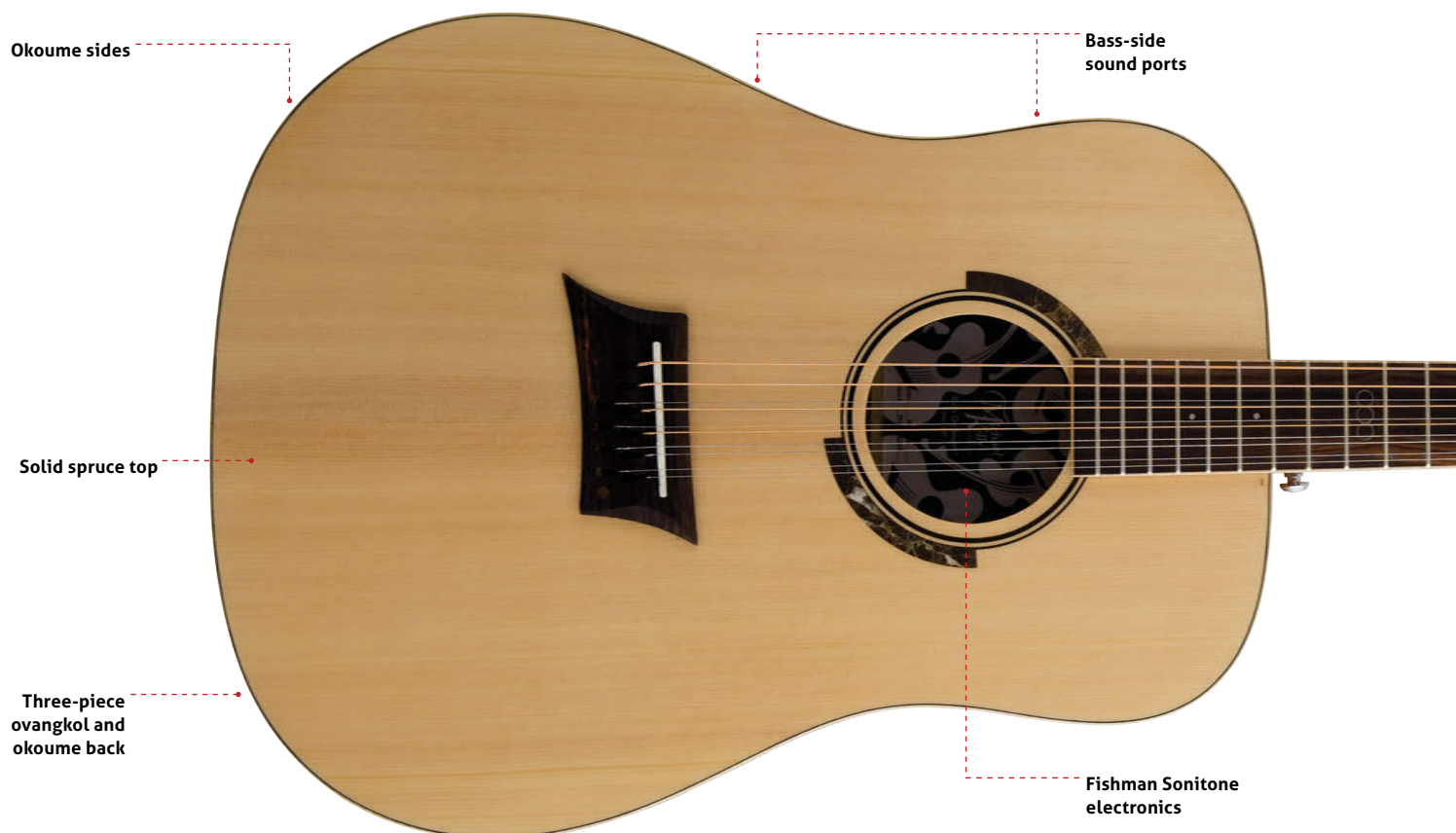
**F**or years, players and techs have yanked the fifth- and sixth-course octave strings from 12-strings guitars. For fingerpickers it can mean easier, cleaner-sounding thumb-picked notes and more concise low-end response. But a purpose-made 10-string like Michael Kelly's Triad 10E offers ergonomic benefits as well, such as less string tension and headstock weight. This innovative instrument delivers on the sonic and playability fronts, providing a cool doubled-string alternative in a price range where 12-strings can be same-ish in sound and construction.

### Boutique Influence

The Triad 10E is built around a standard non-cutaway, square-shouldered dreadnought body. Apart from the single sixth and

fifth strings, the string pairs are like those on a 12-string: The D and G pairs are tuned in octaves and the B and E pairs are unisons. There are five tuners on each side of the headstock, with the G course's lower-string tuner on the bass side. (Both G tuners are usually on the same side, so this arrangement may take some getting used to.)

Some Triad design attributes are more commonly seen on boutique guitars. For example, two bass-side sound ports augment the conventional soundhole, projecting more sound directly at the player. The guitar boasts a solid spruce soundboard, complemented by a symphony of interesting tone woods. The 3-piece back incorporates a center section of ovankol, flanked by flamed okoume sections. The sides and headstock cap are also





okoume. A rosewood fretboard caps the mahogany neck.

Though its square-shoulder dread profile is familiar, the Triad 10E's looks are far from ordinary. The unusual rosette with its sectioned outer ring seems almost Cubist, as does the idiosyncratically shaped bridge. (It's pin-less for easier string changes.) Flamed maple neck and body binding and a maple heel cap lend elegance, as do the back and end strips and small pearloid tuner buttons.

Observable flaws are few. There's a hint of finish bleed on the heel cap, but the interior—clearly visible through the sound ports—is extremely tidy. The frets could've used a little more polishing, but the inlay and binding are meticulous. The gloss-finished back and sides are uniformly smooth and shiny. (A satin top finish might have better matched the fancy appointments, though it would have made the guitar more expensive.)

### Easy on the Fingers, Present in the Ears

Thanks to a shallow, C-shaped neck profile and low action, the Triad 10E can make you forget you're playing a 10-string. You barely notice any extra fretting and picking difficulty despite the extra strings.

I tried a handful of classic 12-string-driven classic rock tunes, including Pink

Floyd's "Wish You Were Here" and Led Zeppelin's "Over the Hills and Far Away." The guitar sounded every bit as brilliant and shimmering as a regular 12-string, and I can't say I missed the doubling of the bottom two strings. In fact, I heard extra low-end clarity. The one bummer about that revelation? The realization that a big-bodied guitar like this should deliver a little more low-end power.

It was great fun experimenting with different stylistic approaches. For example, playing a walking bass line on strings 5 and 6 while comping on the doubled upper strings creates the illusion of two independent parts more effectively than on a standard 6-string. The doubled courses impart extra potency in clustered and altered chords when set against punchy single-note bass lines.

The Triad 10E comes with an active Fishman Sonitone electronics system. The control knobs are tucked unobtrusively inside the soundhole, while the 9V battery compartment and output jack are on the lower bass bout. Plugged into a Fender Acoustasonic amp on a flat setting, the guitar sounds terrific. Its essential acoustic character remains intact, and there's no unwanted humming. The guitar and electronics pair nicely with a little reverb, which emphasizes the shimmering quality.

### The Verdict

Sometimes unique and affordable guitar designs fall short of the desired outcome, but that's hardly the case here. If anything, the Triad 10E is an overachieving instrument that improves on the playability of the 12-string without sacrificing its characteristic chime. This unique guitar plays, sounds, and looks terrific—and at \$399, it's a bargain. 🎸



**CLICK HERE TO HEAR** this guitar at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)

## RATINGS

### Michael Kelly Triad 10E

**\$399 street**  
[michaelkellyguitars.com](http://michaelkellyguitars.com)

Tones	★★★★☆
Playability	★★★★★
Build/Design	★★★★☆
Value	★★★★★

**PROS** Innovative 10-string design. Eliminates some typical 12-string problems. Super affordable.

**CONS** Strap button preinstalled at neck heel. Case not included.



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# JCOLOCCIA

## Big Cannoli

By Charles Saufley

Overdrives—and the players that use them—can be a very divergent set. Because the effect bridges boost and distortion, some players look for a pedal that roars, while others seek only a subtle tone shift.

The op amp-driven JColoccia Big Cannoli resides primarily on the bolder end of the spectrum. It has a British essence, sounding at times like a compressed and cranked AC-30, and sometimes like a grinding Marshall Super Lead. It's not exclusively a "Brit amp in a box"—it offers cool, boxy TS shades and high-mid gain settings with an almost Klon-like refinement. But the Big Cannoli's essence is more sledgehammer than sculpting knife. Any player that loves organic, rambunctious mid-gain rock tones stands a fair chance of falling for its high-calorie crunch.

### Tricolore Triple Switch

If you're accustomed to three-knob TS-style overdrives or one-knob boosters, the Cannoli's four knobs and toggle switch may look comparatively busy. But the controls are simple to navigate and intuitive in practice.

**If you throw the fat switch on, you can make a Fender Deluxe combo sound like a stack punishing the front row at Madison Square Garden.**

While the volume and gain knobs are standard overdrive fare, and the bass and treble knobs are self-explanatory, the three-position toggle's function is less obvious. The tight setting rolls off a little bass, adding focus. The cut setting (which seems to primarily cut lows) also adds focus, but with an emphasis on midrange presence. The fat setting provides the widest harmonic range and the most bass-heavy tones. The differences between the settings can seem subtle at times, but at higher volumes and with high-power amps, the differences become much more apparent, revealing the many facets of the Big Cannoli's personality.



### Growling Like a Big Cat, Kicking Like a Horse

When it comes to straight-up riffage and power chords, the Big Cannoli is tough to beat. In the cut or tight position with a semi-hollow Rickenbacker driving the works, the pedal dishes the growling, overtone-rich drive that made young Noel Gallagher's Epiphone-and-Marshall tones so feral and hypnotic. P-90s are a perfect match if you love rowdy, hell-bent-for-leather, Angus-and-Malcom rhythm propulsion. And if you throw the fat switch on, you can make a Fender Deluxe

combo sound like a stack punishing the front row at Madison Square Garden.

Lead tones have a more cultivated and sometimes tamer personality. Even at presence-enhancing settings there's a certain smoothness to the Big Cannoli—a combination of compression and harmonic evenness equally well suited to silky jazz-rock leads and atmospheric space rock.

For players who prefer a little more savagery, the Big Cannoli might be a touch *too* smooth. The treble control lacks the top-end range that can make a lead really sail over a mix. And players that dig the Big Cannoli's Marshall-like sound on crunchy chords might find the lack of raw, metallic, plectrum-on-string immediacy in single notes a curious sonic disconnect. That doesn't mean aggressive lead tones are absent—with P-90s and hotter humbuckers you can hit the cut switch and max the treble for slicing Paul Kosoff tones. In general though, the Big Cannoli's strength as a

lead boost is its ability to lend smoother, contoured, and more civilized edges to big Brit-style lead tones.

### The Verdict

The ease with which the Big Cannoli delivers big English-style crunch—regardless of the amp—is a minor marvel. Whether you're in a studio with a Fender Blues Jr. or onstage with a borrowed Twin, you can create the illusion of stack-scale humungousness. That makes the pedal a potentially invaluable backline solution, especially for players that primarily ply classic rock waters. Lead tones are exceptionally smooth and controlled. The never-too-heavy compression (particularly in the lows and low-mids) is a great match for all three voices. And though the range of the EQ controls can seem narrow at times, they provide an easy-to-navigate canvas with few high-end spikes when pairing the Cannoli with higher-gain pedals or hotter amps or pickups. For players working in the studio or coping

with an ever-changing backline, this combination of silk glove and pugilist's fist could be a major asset. **PF**



**CLICK HERE TO HEAR** this pedal at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)

## RATINGS

### JColoccia Big Cannoli

\$149 street  
[jcoloccia guitars.com](http://jcoloccia guitars.com)

Tones	★★★★
Ease of Use	★★★★
Build/Design	★★★★
Value	★★★★

**PROS** Glorious crunch tones. Smooth lead tones. Never sounds over-compressed.

**CONS** A little extra top end would be nice for aggressive leads.

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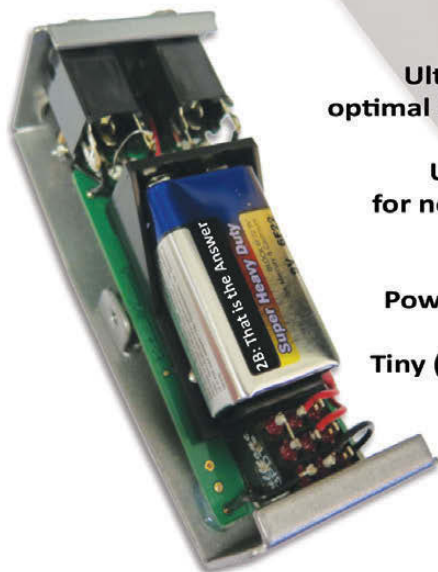
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# DEAN ZELINSKY GUITARS

## Mule Bass

By David Abdo

**D**ean Zelinsky's impact on guitar design is undisputed. He's created instruments for rock royalty, from Dimebag Darrell's ML guitar to the outrageous fur axes spun by Billy Gibbons and Dusty Hill. Now the founder of Dean Guitars has a new venture: Dean Zelinsky Guitars. The line includes the Mule, a unique new take on J-style designs.

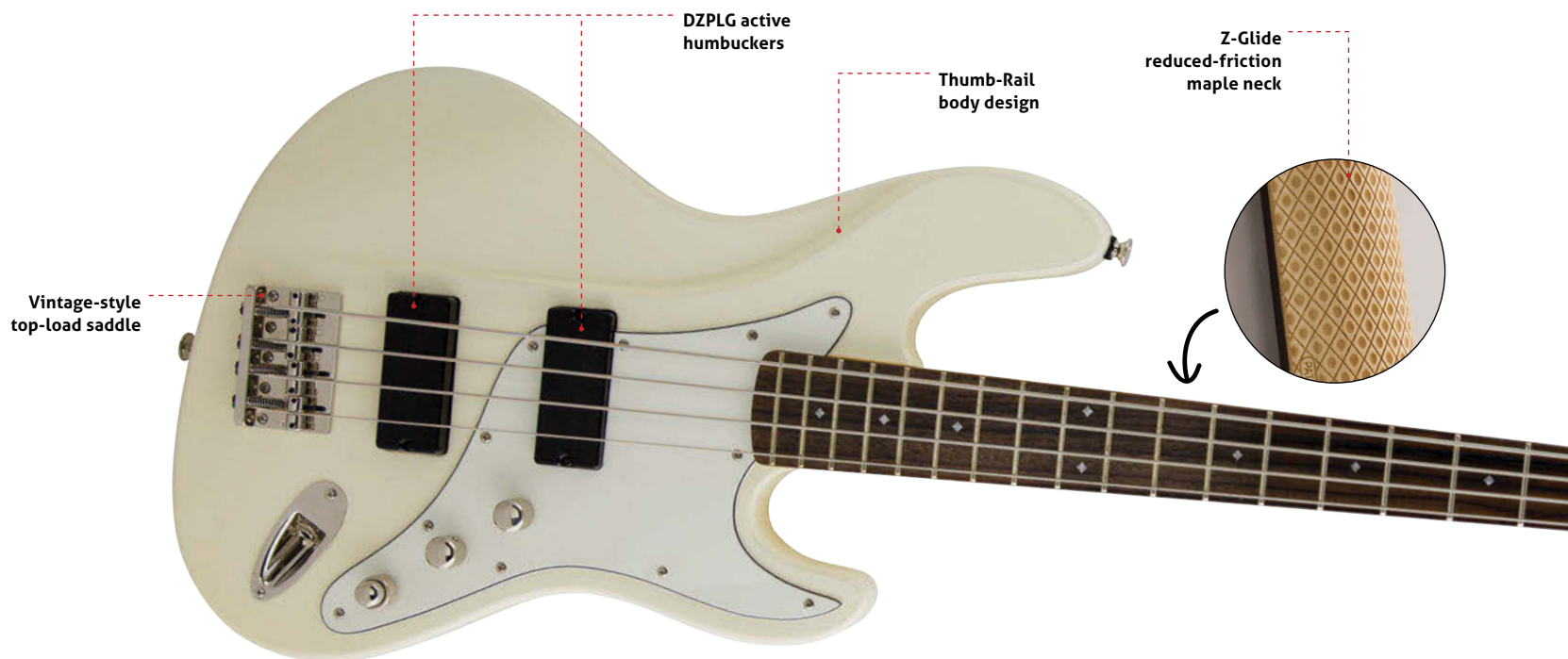
### Mule School

Like its equine namesake, the Mule 4-string is a hybrid. It melds traditional J-style construction with Zelinsky innovations. Our test model's vintage white finish gives the basswood body a pleasingly classic look. (The Mule is also available in classic black, transparent amber, and burst finishes.) A rosewood

fretboard caps the bolt-on maple neck. (Maple fretboards are also available.) The Mule also comes in a 5-string version.

Zelinsky preserves tradition by shaping the neck with a medium thin, soft "C" shape, but tweaks it with a 12" fretboard radius. Meanwhile, his open-gear tuners give a classic look a contemporary twist while offering pinpoint accuracy. The Mule is devoid of 60-cycle hum thanks to a pair of DZPLG active humbuckers. A 9V battery powers both the pickups and a preamp with 2-band EQ.

Two striking enhancements make the Mule stand out from the herd: Zelinsky contours the upper body with what he calls a "Thumb-Rail" design. (Many bassists who regularly shift their plucking-hand position for varied tones will appreciate this





## The engraved pattern of the Z-Glide on the neck's rear side reduces the surface area by 70 percent, allowing air to pass under the thumb.

supportive thumb rest across most of the body's length.) But the pièce de résistance resides on the bass's rear side: the patented Z-Glide reduced-friction neck. The engraved pattern of the Z-Glide on the neck's rear side reduces the surface area by 70 percent, allowing air to pass under the thumb. This helps keep the fretting hand dry and alleviates the sticky feel of some glossy and satin-finished necks. (For a slight upcharge, players can request a personalized Z-Glide neck with their name engraved.)

### Take a Walk on Z-Glide Side

I experienced a touch of neck dive with the bass strapped while standing. My balance concerns were even more pronounced while sitting down with the bass's body on my thigh. But positioning the bass between my legs, classical guitar-style, let me explore the neck without any balance issues.

For someone who's spent decades playing on both finished and unfinished necks, shifting up and down the Z-Glide neck was a new sensation. The engraved pattern definitely kept my thumb dry and prevented any stickiness whatsoever. That said, it took some time to get comfortable with the texture—it *is* a totally different

feeling. I'm by no means a "monkey grip" player, but I had to adjust my thumb pressure to accommodate the design.

I dig the look of the thumb-rail design, which may be a great benefit for players who tend to rest a thumb on the body. It doesn't necessarily cater to my right-hand damping technique, since anchoring the thumb above the strings makes unwanted vibrations more prominent. Still, the design provides a pleasant arm contour that lets players who use a pick or floating-thumb technique maintain a relaxed plucking-hand position.

### Big Bottom, Punchy Mids

The Mule's tones combine past influences with modern timbres. Balancing both pickups produces a sound with strong lows, slight low-mid punch, and bright top end. Soloing the neck pickup conveys a deeper tone that suggests a cross between a G&L L-2000 and a Modulus Quantum. The bridge pickup alone has the expected bark, but with that extra thickness typical of a humbucker.

The Mule provided a consistent, supportive foundation on a blues gig. Plugged into an Epifani UL 501 paired with an Ampeg 4x10, the bass provided

enough bottom to punch through the quintet with authority while the crystalline top end effortlessly cut through the mix. Working the neck pickup, I created full, sustained notes ideal for ballads and Motown classics. Mixing the pickups and boosting both lows and highs provided a slap tone with tight lows and piercing, popping transients, perfect for R&B tunes and modern gospel songs. For a 16th-note funk jam, I dialed the blend back toward the bridge pickup. At first it didn't deliver the thick yet biting tone I'd heard at home, but a simple bass boost provided sufficient beefiness. By the end of the night, I considered Zelinsky's preamp an effective onstage problem solver.

### The Verdict

The Mule has a big voice thanks to new construction approaches. Bassists who like bright, beefy, slightly scooped sounds will probably enjoy what it has to offer. The Z-Glide neck might not be for everyone, but sweaty-handed players may appreciate its benefits. With a price nowhere near budget-buster territory, the Mule could be a dependable companion to carry your low-end load. **PG**

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## RATINGS

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Tones	★★★★☆
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**PROS** A unique twist on the J-bass formula. Solid electronics. Affordable.

**CONS** Design innovations not for everyone. Balance issues.





## 01 - MINIFOOGER ANALOG EFFECTS - 07

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# STOMP UNDER FOOT

## Rhinosaur

By Jon D'Auria

**W**e bassists are lucky to live in an era when bass-specific fuzz pedals are plentiful. Yet for decades, the industry bass-fuzz standard has been the Big Muff. Stomp Under Foot's Matt Pasquerella wanted to do something different, so he created with the handmade Rhinosaur.

The Rhinosaur circuit is inspired by the Colorsound Bass Fuzz, a pedal known for maintaining low end and packing a punch. Like the original, the pedal employs BC549C transistors. But unlike the big, bulky Colorsound, the Rhinosaur resides in a compact 2.5" x 5" box. The pedal feels rugged, is adorned with slick graphics, and has a simple control layout: a trio of knobs for level, tone, and fuzz.

**The raw force of the fuzz and the huge body of the low end made everything I played in the lower registers—no matter how simplistic—sound powerful.**

### Deep and Dirty

Placing the pedal between a passive Fender Deluxe P and an Ampeg SVT, I started out with the tone, level, and fuzz knobs at noon. From my first finger strike at the 4<sup>th</sup> string's 7th fret, I felt an immense amount of air from my cabinet. As advertised, the low-end thickness held, merging tenaciously with the cutting fuzz sound. The midrange attack—especially on the 2nd and 3rd strings between the 5th and 12th frets—came through with excellent density, while each note maintained solid resonance. The high end of the 1st string was tremendously clear in a grinding fashion, becoming pleasantly ear-piercing as I climbed the neck.



Keeping the level and tone at noon and pushing the fuzz to about 3 o'clock, the distortion increased intensely but held its form without cracking or generating a blown-speaker timbre. The raw force of the fuzz and the huge body of the low end made everything I played in the lower registers—no matter how simplistic—sound powerful.

Thinning can occur when using a pick with fuzz or distortion pedals, but when I pulled out a plectrum, the tone held true. Striking the strings with a choppy technique created a unique sound bordering on analog-synth terrain. Alternating picking in the mid-to-high registers made my whole amp scream.

### Peachy Fuzz

To check out the Rhinosaur's subtler side, I rolled back the level, tone, and fuzz to around 9 o'clock for low-gain distortion suitable for rock/indie music. Instead of creating an icing layer on top of the clean tone, the fuzz permeated the entire signal. There was just enough clean tone to feel round, but with enough grit to add interesting crunch. This setting was especially pleasing while working steady eighth-note runs with a pick.

Since the Rhinosaur *is* a fuzz pedal (and I was fully warmed up and ready to attempt some jump kicks), I tested

the pedal at full throttle. I unlocked the fuzz banshee by cranking the level to 2 o'clock, the tone to 3 o'clock, and the fuzz to full tilt. The result was an über-drenched tone that still maintained impressive clarity. Higher notes merged slightly and the mids began to sound somewhat snythy, but overall, the pedal held and the lows boomed as much as ever.

### The Verdict

Sure, you can get nasty fuzz tone from many of today's bass-fuzz pedals, but the Rhinosaur maintains lows in ways that really stand out. The highs and mids cut nicely with good note independence. The design is user-friendly, and the pedal comes in a compact enclosure. Whether you're a boutique purist seeking vintage fuzz or simply someone searching for a sturdy pedal that packs serious heat, the Rhinosaur just might be your dinosaur. **PG**



**CLICK HERE TO HEAR** this pedal at [premierguitar.com/nov2015](http://premierguitar.com/nov2015)

## RATINGS

### Stomp Under Foot Rhinosaur

\$185 street  
[stompunderfoot.com](http://stompunderfoot.com)

Tones	★★★★
Ease of Use	★★★★
Build/Design	★★★★
Value	★★★½

**PROS** Powerful fuzz. Strong lows. Sturdy construction. Simple controls. Compact size.

**CONS** High notes can blend into each other when the fuzz is fully cranked. A bit pricy.

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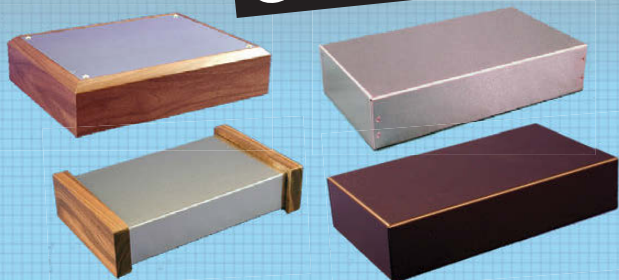


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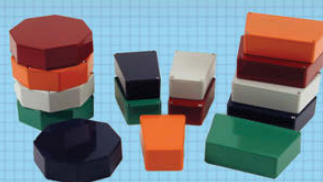
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**Q:**

***If you could ask Jimi Hendrix one question, what would it be?***



**Buffy Sainte-Marie**  
*Guest Picker*

**A:** I used to play shows with Bukka White (who was wonderful) and I adored all the country blues players that Sam Charters recorded—all those tunings and techniques. Did they influence you too? Got any stories?

**Current obsession:**  
Ry—redux! I reconnected with my old friend, the great Ry Cooder, at the Americana Music Association Awards last night in Nashville. We'd played together several times in the '70s and '80s: live, on recordings, and even on Mick Jagger's first movie, *Performance*. I just downloaded nine of Ry's albums, every one a jewel. My ears are singing!



**John Isenberg**  
*Reader of the Month*

**A:** I'd ask him how he comes up with new music. Is he playing his guitar or doing something else? While I was still working, I would hear music in my head. Then when I'd get home, I'd play it out into something. I think it's interesting to see how musicians come up with their ideas.

**Current obsession:**  
Playing my guitar and working on my home recording studio.







**John Bohlinger**  
*Nashville Correspondent*

**A:** Were you high during every show and session?

**Current obsession:**

Pedal steel is a puzzle that nobody can complete. Mine have 10 strings, (E9 tuning), three pedals on the left, and five knee levers—the possible combinations are nearly limitless. Watch Paul Franklin at 10:30 in the *PG* Rig Rundown. The complexity of his simple-sounding move is mind-blowing.

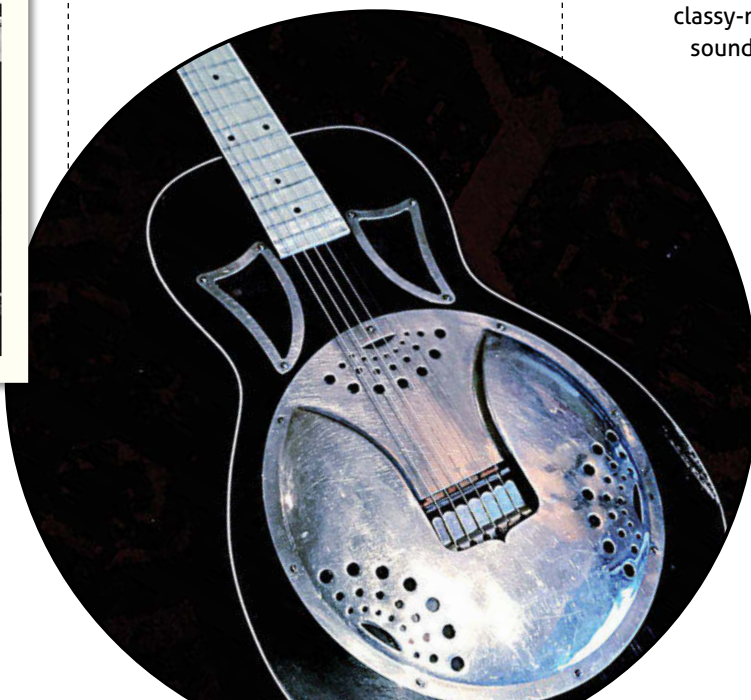


**Joe Gore**  
*Senior Editor*

**A:** Dude, can you believe that 40-some years from now, rock will be one of the most conservative forms of music?

**Current obsession:**

My old Cathedranola, a funky little guitar that the Slingerland drum company made back before WWII. It's not valuable—it's a plywood piece of crap with a fake "resonator cone." It's hard to play. Its tone is pathetically weak. But it conjures instant "sad and lonely" for scores and soundscapes.



**Tessa Jeffers**  
*Managing Editor*

**A:** What is the single most important musical moment, performance, or composition that you'd point to as the ultimate reference or encapsulation (considering time has passed, it's today, and all you've learned now that you are wherever you are) of what is life-affirming for you?

**Current obsession:**

Buffy Sainte-Marie's "silent guitar," the Yamaha SLG110. I saw her perform at Americanafest recently and not only did this guitar fit her classy-meets-edgy vibe, it sounded beautiful too.





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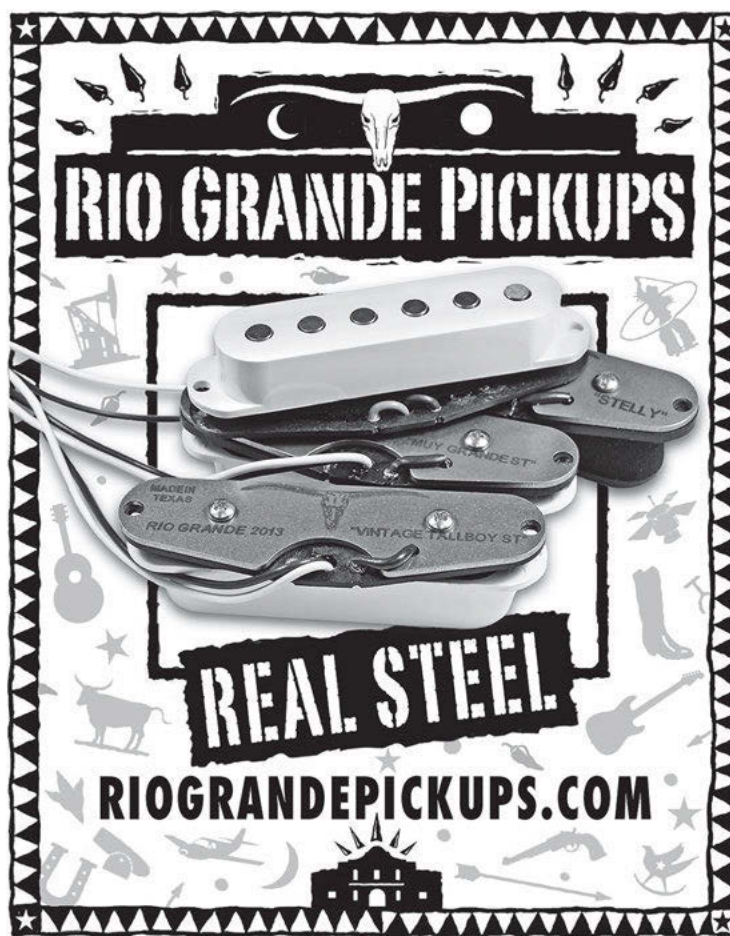
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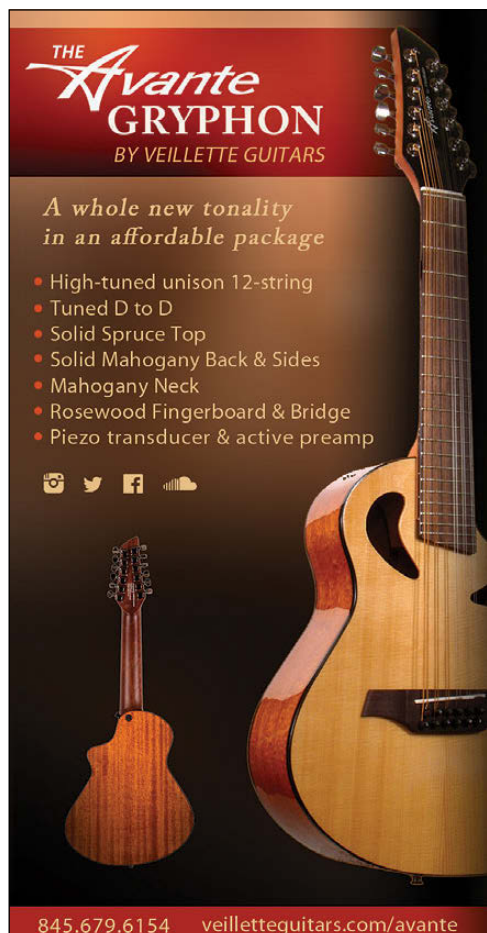
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## Building with Your Ears

BY JOL DANTZIG

The look on Ray's face was a mixture of surprise and outrage. He was trying to keep his anger in check, but his clenched fists were giving him away. Ray was a fairly new hire who had been making good progress, and I knew he was working hard to make a good impression on me and everyone else in the shop. It was obvious he liked making guitars, but he had a long way to go before the more seasoned builders would trust him with anything sharp. This particular morning, he had been jockeying a bass against the polishing wheel with his back to me as I called out his name twice. I'd noticed the telltale white wires coming from his over-ear sound-protection muffs, and once I had his full attention, I asked him to remove the buds from his ears—permanently.

"I'm listening to Pearl Jam," he explained. "We make instruments for Jeff Ament, I'm ..." Ray struggled for the right words that would convey his dedication and total commitment to his craft. "We're part of the music business," he continued with his voice starting to rise in pitch. "I'd think that it would be part of the job—I care about this." His words trailed off as he shook his head. He knew ear protection was mandatory in the noisy shop, so he couldn't understand

what he'd done wrong. Why was I singling him out?

"Look Ray," I began, "I know you're passionate about music, and that's *good*. I like that you're connected to what we do here. But you have to be able to hear the work talking to you." Ray's forehead wrinkled below the edge of his knit cap. He remained silent, but his eyes said: *What the fuck are you talking about?*

It wasn't the first time (or the last) that my mentoring style elicited this response. There were a dozen ways I could have put this to him, but I wanted it to stick. "You need to listen to the sounds around you," I explained. "Every operation here makes two kinds of noise: one when you are doing it correctly, and the other when something's going *wrong*." Ray's expression was now one of curiosity. "Learning those sounds can make you a better craftsman," I continued, "and can also save your ass." I again asked him not to use the earbuds, and left him to finish his job.

Excessive noise in a guitar shop—either machinery or loud music—can be detrimental to your long-term hearing. If you are a music fan, this will be a crushing blow to you later in life, so prepare for it now. Most hearing protection—be it earplugs or over-the-ear muffs—with a sound attenuation factor of 30 to 40 dB reduces the din of a noisy workshop while still allowing you to hear the important sounds that almost subconsciously guide you. Another bonus is that constant noise is fatiguing, so you'll feel better at the end of the day if you protect your hearing.


Every task has its own song. A planer or jointer chirps at the end of a pass when the feed rollers or tables need adjustment. A band saw has a whole vocabulary of sounds that tell you when guides are worn or misaligned, or if you are cutting too fast or turning too sharply. I have known woodworkers who can hear when a band saw blade is about to break. If you've ever worked on

a really big one, you know how that gets your attention.

There is a distinct howl that router bits make when they are dulling or when the chip clearance angle is compromised with wood-pitch buildup. Occasionally, bits and blades can have incorrect geometry—even if fresh from the factory or a sharpening service—which makes them dangerous to use. These tools produce unusual sounds that can tip you off immediately. If you return that tool right away, not only will you avoid injury or damaging parts, it will also be clear to the vendor that you didn't just wear it out.

Hand tools like chisels and planes have a certain sound when they are happy, and complain when they are not. Cabinet scrapers have a signature song when they are properly burred. Drills make a squealing noise when dull, pushed too hard, or when you've chosen the wrong speed for the diameter of your bit. The simple acts of filing frets or shaping a string nut each have a smooth tone when things are going well, yet make chattering noises when done incorrectly.

If you spend time working with tools—no matter what you're making—I've made my best case for paying attention to the whispering of the wood and steel surrounding you in the shop. It can save you time, money, and even protect your health.

So, how did that conversation with the shop newbie pan out? Not too long after that, Ray learned about the noise a buffing wheel makes when it gets too close to a guitar's edge, followed by the sound of the instrument bouncing loudly off the shop floor. Many years later, we laughed about it. 

Nothing against Pearl Jam, but their music has no place alongside heavy machinery in a guitar workshop.



**JOL DANTZIG** is a noted designer, builder, and player who co-founded Hamer Guitars, one of the first boutique guitar brands, in 1973. Today, as the director of Dantzig Guitar Design, he continues to help define the art of custom guitar. To learn more, visit [guitardesigner.com](http://guitardesigner.com).



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# The One Rule of Showbiz and Why It's Good for You

BY JOHN BOHLINGER

Playing music can help you forget your troubles for a while.

**T**he show must go on. There are no exceptions. The Titanic sinks, the band plays. Given the options for an adult male in that exact situation, pounding out a deep shuffle sounds like a better alternative to fighting for room on a lifeboat overcrowded with women, children, and cowardly men dressed as women.

The rule is a good thing—and not just for the audience, promoters, band members, and everybody on the payroll. The rule is good for musicians with serious problems. When life goes to shit, often the best medicine is to drag your barely breathing carcass onstage and play some music.

Last week I received some soul-crushing/life-changing news (no need to spill all the miserable details, just insert your favorite catastrophe). I felt like an extra-burly Mike Tyson was angrily jumping rope on my chest. I had trouble breathing, speaking, and processing information. My mind raced as I oscillated between shouting at the sky and muttering aloud like a street person off his meds. But within a few hours, I was playing a gig for the massive crowd shown in this photo.

I spent the next two days about as stable as Keith Richards riding a unicycle through a hurricane, but I played huge shows every night, albeit a tad self-medicated. These gigs did more to help me than any therapy. Yes, gentle reader, your less-than-stable scribe has done his time on the couch. Therapy encourages one to look inward in hopes of revealing a truth that leads to a better understanding and ultimately, contentment. But how often does being self-absorbed lead to a better place, or even understanding? Rarely.

Maybe it's because we lie to ourselves or are blinded by biases, or we don't want to know the truth. Or maybe it's because humans are still running on caveman wiring. When you're stressed, the brain signals the adrenal glands to



release adrenaline and other chemicals that race your heart, shut down your bowels, impair memory and learning, and lead to depression. This turns you into a hyperventilating, constipated, mentally impaired, sad ball o' rage.

When you get like this, it's nearly impossible to think your way to a solution. Instead, stupid, unanswerable questions ("How did this happen?" "Why me?") flood your mind. It might feel like you're looking for answers, but obsessing this way merely deprives you of sleep, makes you feel bad, and keeps you from moving on.

Musicians have a better option: Leave your problems at the stage door. When I used to hear that old theater chestnut, I thought it was just a way to ensure that a prima donna actor doesn't screw up the entire show simply because an intern was late with a skinny soy-cappuccino. That's part of it, but there's more.


Leaving your troubles for a few hours is a healing gift. Playing music can make your body release neurotransmitters that help naturally reset your mood to something more positive and optimistic. A brief respite from your worries allows your body to recover from psychological and physical stress—there's no better therapy in the world. As an added bonus, pain and sadness can be the catalyst for a great performance. As Stevie Ray

Vaughan said, "Pray through your guitar." When words fail, music speaks.

Civilians deep in the dumps have two prescribed treatments for depression, anxiety, or emotional trauma:

- (1) Take pills to numb it.
- (2) Talk to a stranger about your problems in exchange for \$50 to \$500 per 50-minute hour, depending on where you land on the healthcare sliding scale.

We musicians have another prescription—drop your problems until after the gig. Your problems won't go away, but they will probably seem more manageable. Your body will feel better and you may even be able to sleep again.

Sometimes music is the only thing that can drown out those destructive loops that repeat in our heads. During my current emotional crisis, these gigs gave me a Zen-like "it could-be-worse" perspective. I'm incredibly grateful for that. When you're hurting, "the show must go on" translates to "life goes on." 



**JOHN BOHLINGER** is a Nashville musician who has led the band on NBC's Nashville Star and served as musical director of the CMT Music Awards for the last six years. In addition to his "Last Call" column, John recently joined PG as our full-time gear demo/Rig Rundown video dude.

Photo by Will Hensley





Choosing a guitar is not as simple as heading to the store. It's the thrill of the hunt – the research, the obsession. It's the never-ending quest for your tone, your unique sound. The feeling of a guitar neck sliding into your hands like it was meant to be, like it's always been there. We understand what most will never understand...



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